



Hellenic Republic
Ministry of Rural Development and Food
Directorate-General for Fisheries

Greek Fishing Fleet 2021 Annual Report

Pursuant to Article 22 of Regulation (EU) No 1380/2013
of the European Parliament and of the Council



MAY 2022
ATHENS

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SUMMARY

The Greek fishing fleet continues to be characterised by its large number of fishing vessels (**12 265 vessels as at 31 December 2021**), albeit with small overall tonnage (**62 561.19 GT**) and engine power (**361 175.93 kW**), which fish coastal stocks along the extensive shoreline of the Greek mainland and the numerous Greek islands.

The largest segment of the fleet (**96.16%**) is made up of vessels fishing multiple species near the coast using static gear. Only **2.01%** of fishing vessels (247 vessels) target benthic species (striped mullet, red mullet, hake and crustaceans) using bottom otter trawls (OTB) as their main gear, while **1.83%** (224 vessels) target pelagic species, mainly anchovy and sardine, using purse seines (PS) as their main gear.

To assess the condition of fish stocks and quantify the impact of fishing activities, account was taken of older data combined with data obtained through the national fisheries data collection programme for the years 2014 to 2021 and other available scientific data. The resulting estimates regarding fishing activity and the condition of biologically fishable stocks are set out by fleet segment in the individual chapters of this report.

The report takes into account, as far as possible, the findings of the most recent STECF report assessing balance indicators and reviewing national reports, entitled *Scientific, Technical and Economic Committee for Fisheries (STECF) – Assessment of balance indicators for key fleet segments and review of national reports on Member States’ efforts to achieve balance between fishing capacity and fishing opportunities (STECF-21-16)*, published in December 2021.

It is worth noting that since 2003 the Greek fishing fleet has declined significantly, mainly as a result, until recently, of financial support for the permanent cessation of fishing activities granted under the operational programmes for fisheries.

Moreover, Greece has been making considerable efforts in recent years to reduce the number of vessels as part of an overall restructuring of the fishing fleet.

Year	Vessels	Reduction from previous year	GT	kW
2018	14 123		66 748.11	395 170.51
2019	14 018	105	66 511.28	392 440.31
2020	13 950	68	66 255.40	391 402.44
2021	12 265	1 685	62 561.19	361 175.93
Reduction over 3 years	1 858		4 186.92	33 994.58

Note that in order to complete the restructuring of its fleet, Greece reserves the right to make use of the capacity available to it, based on the reference levels for the Greek fishing fleet and without exceeding the ceilings set by Annex II to Regulation (EU) No 1380/2013.

Based on the recent data set out in Section 3, it is mostly smaller vessels that have left the fleet (overall length < 12 m).

Moreover, the Greek fishing fleet complies fully with both the entry-exit regime and the reference levels (see Section 4).

CHAPTER I

DESCRIPTION OF THE FLEET

1. DESCRIPTION OF THE FISHING FLEET

According to the national register of fishing vessels (**extract taken on 4 May 2022**), on 31 December 2021 the Greek fishing fleet comprised **12 265 active** fishing vessels with a total gross tonnage of **62 561.19 GT** and total engine power of **361 175.93 kW**.

The situation of the Greek fishing fleet as at 31 December 2021, broken down according to OECD-approved length categories, is illustrated in the table below.

OVERALL LENGTH (m)	NUMBER OF VESSELS	GROSS TONNAGE (GT)
0.00-5.99	3 868	2 676.87
6.00-11.99	7 641	21 093.76
12.00-17.99	365	6 519.07
18.00-23.99	221	10 761.65
24.00-29.99	144	15 610.84
30.00-35.99	24	5 092.00
36.00-44.99	2	807.00
45.00-59.99	–	–
60.00-74.99	–	–
+75.00	–	–
No engine (of the above)	100	58.94

The Greek fishing fleet, which operates almost exclusively in the Mediterranean, is the **EU's largest fleet in terms of the number of vessels**. It falls into three broad categories according to the fishing gear used:

A. Vessels fishing with static gear

These are mainly fishing vessels operating year-round along the coast of the Greek mainland and around the islands with a variety of gear depending on the time of year and the target species. However, there are some large vessels operating with static gear, mainly surface longlines (LLD), that are fully equipped to carry out fishing trips lasting for several days in Greek waters (GSAs 20, 22 and 23) and beyond, including most of the international waters of the Eastern Mediterranean.

B. Vessels fishing with towed gear

These are vessels fishing with bottom otter trawls and operating in Greek and international waters of the Aegean, Ionian and Cretan Seas, mainly in FAO/GFCM geographical sub-areas (GSAs) 20, 22 and 23, and in third-country waters under bilateral fisheries partnership agreements between the EU and third countries or by virtue of private agreements.

C. Vessels fishing with encircling nets

These are vessels operating in Greek and international waters of the Aegean and Ionian Seas (GSAs 20 and 22) fishing with purse seines and targeting various pelagic species.

Detailed information

A. VESSELS FISHING WITH STATIC GEAR

Vessels in this category operate mostly in coastal waters and account for most of the Greek fishing fleet (**96.16%**) in terms of the number of vessels (**11 794**).

The vessels can be broken down as follows in terms of overall length:

– *Small vessels: **11 509** fishing vessels of an overall length of less than 12 metres, with a total gross tonnage of **23 770.63 GT** and total engine power of **220 157.20 kW**.*

– *Larger vessels: **285** fishing vessels of an overall length of 12 metres or more with a total gross tonnage of **4 914.53 GT** and total engine power of **27 206.91 kW**.*

Coastal fishing is carried out by small-capacity vessels fishing coastal stocks with relatively high-selectivity and low-yield fishing methods and gear (such as nets, longlines, traps and dredges). These fishing activities are vital for coastal areas of Greece as they help maintain the socio-economic fabric of coastal and island communities.

Fishing is carried out by professional fishers holding a professional fishing licence for vessels they own.

– Vessels fishing with ‘seine nets operated from a vessel at anchor’, ‘trawls’ or ‘winch trawls’ (SB)

Moreover, **217** fishing vessels in this category have a licence that also includes ‘seine nets operated from a vessel at anchor’, ‘trawls’ or ‘winch trawls’ (**SB**). For 3 years, fishing with winch trawls was allowed under a management plan laid down by Ministerial Decision 6719/146097 of 29 December 2016 (Government Gazette [GG], Series II, No 4348), as amended by Ministerial Decision 4065/330700 of 30 December 2019 (GG, Series II, No 6), pursuant to Article 19 of Regulation (EC) No 1967/2006, which provides for certain technical measures in the Mediterranean Sea.

The use of this gear was authorised by derogation, applicable for 3 years from 3 June 2017, from the provisions of Article 13 of the above Regulation, as provided for by Commission Implementing Regulation (EU) 2017/929 of 31 May 2017 establishing a derogation from Council Regulation (EC) No 1967/2006 as regards the minimum distance from coast and the minimum sea depth for boat seine fishing in territorial waters of Greece.

No fishing vessels used this type of gear in 2021 as no implementing regulation or ministerial decision was adopted or entered into force. The vessels concerned have other coastal fishing gears at their disposal and continued operating with those gears.

Greece is constantly making every effort to implement the objectives of MedFish4Ever and the common fisheries policy and is developing initiatives regarding rational stock management measures, use of more selective gear, the protection of nurseries and support for coastal fishers.

One such measure was a 2020 decision to grant *de minimis* financial support, of €25 000 per vessel, to **101 vessels** equipped with boat seines (SB) for **voluntarily** giving up this gear. In 2021 **the procedures for paying the beneficiaries were completed** and the National Fishing Register was updated accordingly.

– **Vessels equipped with ‘hand dredges used on board a vessel’ (DRH)**

The categories and types of gear are based on Annex III to Regulation (EU) No 1379/2013, where two types of gear, ‘boat dredges’ (DRB) and ‘hand dredges used on board a vessel’ (DRH) are listed in the ‘dredges’ category.

The ‘boat dredges’ (DRB) gear type corresponds to towed gears (boat dredges and mechanised dredges) as defined in Regulation (EC) No 1967/2006 (the ‘Mediterranean Regulation’), and is therefore subject to the obligations arising from that Regulation.

The dredges used by Greek fishing vessels, ‘argalios’ and ‘tsougrana’ [rake], are not towed gear within the meaning of the above Regulation as they are manually operated or hauled with manual winches in shallow coastal waters, targeting bivalve molluscs, gastropods or sponges.

In the past, these gears (both of the type DRH) were incorrectly classified as ‘boat dredges’ (DRB). We are now in the final stages of a process launched in 2021 of re-checking the national fishing register to ensure that the gear is correctly recorded and to supplement and/or correct the licences of fishing vessels carrying such gear (see Circular No 3155/245486 of 2 March 2022 of the Directorate for Fisheries and Management of Fishery Resources).

B. VESSELS FISHING WITH TOWED GEAR

– **Vessels fishing with bottom otter trawls**

In 2021 there were **236** vessels operating **mainly** with bottom otter trawls, with a total gross tonnage as at 31 December 2021 of **23 767.20** GT and total engine power of **70 660.09 kW**.

Although these vessels make up a small portion of the Greek fishing fleet (only **1.81%**), they account for some **25%** of the total annual fishing yield.

Bottom trawling is a widely used method of fishing in all three GSAs, i.e. the Ionian Sea (GSA 20), the Aegean Sea (GSA 22) and the Cretan Sea (GSA 23), mainly in fishing grounds covering the continental shelf and the first section of the slope (to a depth of around 300 metres) in Greek and international waters of the Mediterranean.

Species found mainly or exclusively on the continental shelf (to depths of 150-200 metres) account for a significant portion (some 15-20%) of catches, and include striped mullet (*Mullus barbatus*), red mullet (*Mullus surmuletus*), hake (*Merluccius merluccius*), various cephalopods (*Octopus vulgaris*, *Eledona moschata*, *Loligo vulgaris*), crustaceans (*Peneus kerathurus*, *Nephrops norvegicus*) and sea bream (*Diplodus annularis*).

Around a third of the fishing vessels in this category (**80 vessels**) carry purse seines (PS) as a second set of gear, which is used only exceptionally.

Management rules are based on EU common fisheries policy (CFP) regulations, and additional measures in the form of temporary bans or area restrictions are laid down under national legislation to ensure sustainable exploitation and the protection of fish stocks.

(a) A **management plan** for fishing with bottom otter trawls, approved by the European Commission, has been in force since early 2014 (Ministerial Decision 271/2576 of 9 January 2014, GG, Series I, No 58). The plan is being implemented throughout Greece and covers the following:

- rules for fishing with the gear in question;
- additional time restrictions;
- annual scientific monitoring of the condition of the target species in relation to reference indicators, based on a monitoring programme, to ensure they are kept within safe biological limits;
- granting of (annual) licences to fish with bottom otter trawls in addition to the vessel's general fishing licence.

An updated management plan for this gear was submitted in 2021, with a proposed derogation. The STECF issued an opinion on the plan at its 68th session (PLEN-21-03).

A total of **233 annual fishing licences** were granted in **2021** for the use of bottom otter trawls.

(b) A **discard plan**, in force since 1 January 2017, has been established with the aim of reducing discards of benthic species subject to minimum sizes (e.g. Mediterranean hake, striped mullet and prawn) as required by Regulation (EU) No 2017/86 of 20 October 2016 (OJ L 14, 18.1.2017), as amended by Regulation (EU) 2020/4 (OJ L 2, 6.1.2020).

(c) A **multiannual management plan** has been put in place for **giant red shrimp** and **blue and red shrimp** in accordance with GFCM recommendation 42/2018/4. The plan provides for sustainable fishing of giant red shrimp (*Aristaeomorpha foliacea*) and blue and red shrimp (*Aristeus antennatus*) with bottom otter trawls in the Ionian Sea (sub-areas 19, 20 and 21).

Under Decision 4362/325384 of 18 November 2021 of the Ministry of Rural Development and Food (GG, Series II, No 5448), fishing licences are granted until 31 December of each year to vessels with a valid general fishing licence and a licence to fish with bottom trawls, and are valid for 1 year, i.e. from 1 January until 31 December the following year, unless withdrawn at an earlier date. Licences are issued on condition that the vessels have a functioning satellite

tracking device (vessel monitoring system, VMS) and electronic reporting system (ERS) on board.

In 2021 a total of **230 licences** were issued, for the duration of 1 year, to fish giant red shrimp and blue and red shrimp (ARA-ARS) using bottom otter trawls.

– **Vessels fishing in third-country and international waters of the Mediterranean**

Vessels fishing in third-country waters are the smallest segment of the Greek fleet. According to the national register of fishing vessels, as at 31 December 2021 it consisted of **three vessels** of an overall length of more than 20 metres fishing with bottom otter trawls, with a total gross tonnage of **846.00 GT** and total engine power of **1 872.39 kW**.

Each vessel has a fishing licence supplemented by an appropriate licence to fish in the waters of third countries, typically issued for 3 months, under a fisheries partnership agreement between the EU and the third country or under a private agreement with the authorities of a third country. This part of the fleet has shrunk considerably in recent years and continues to do so, as fishing opportunities for such vessels have declined significantly.

No vessels in this category engaged in fishing in 2021.

Fishing vessels operating in international waters of the Mediterranean mainly use **bottom otter trawls, purse seines** and **drifting longlines**. Fishing licences are granted on the condition that national and EU legislation, as well as international rules on the preservation and management of fish stocks, are complied with.

Specifically with regard to fishing with bottom otter trawls, licences to fish in international waters cannot be used in FAO/GFCM/GSA sub-areas 20, 22 and 23:

- from 24 May to 15 July each year in all sub-areas; and
- from 16 July to 1 October in parts of sub-area 22.

For **2021** a total of **393 licences** were granted, for all types of gear, to fish in international waters of the Mediterranean.

C. VESSELS FISHING WITH ENCIRCLING NETS

– **Vessels fishing with purse seines**

This segment is made up of **224** vessels fishing with purse seines as their main gear, with a total gross tonnage of **9 895.87 GT** and total engine power of **41 900.97 kW**. Vessels using purse seines as their main gear target mainly small pelagic species, operate only in good weather and, due to the vulnerability of the main target species, do not make long fishing trips (rarely more than 48 hours).

Management rules are based on EU common fisheries policy (CFP) regulations, and additional measures are laid down under national legislation to ensure sustainable exploitation and the

protection of fish stocks, including temporary bans or area restrictions and the use of different gear depending on whether fishing is carried out during the day or at night.

A management plan for fishing small pelagic species, i.e. anchovy (*Engraulis encrasicolus*) and sardine (*Sardina pilchardus*), using purse seines was put in place as early as February 2012 (Ministerial Decision 9131 of 4 February 2012, GG, Series I, No 1519).

The management plan covers the following:

- rules for fishing with the gear in question;
- a plan for scientific monitoring of the target species based on reference indicators to assess the condition of the target stocks;
- a 'licence to fish for small pelagic species (anchovy and sardine)' granted in addition to the vessel's general fishing licence.

A total of **277 licences**, valid for 1 year, to fish for small pelagic species (anchovy and sardine) were granted for 2021, including, in some cases, to vessels equipped with a purse seine without this being their main gear.

A management plan is in place to reduce discards in small pelagic fishing (anchovy and sardine), as required by Commission Delegated Regulation (EU) 2018/161 of 23 October 2017 establishing a *de minimis* exemption to the landing obligation for certain small pelagic fisheries in the Mediterranean Sea (OJ L 30, 2.2.2018), as amended.

D. FISHING WITH ANNUAL FISHING LICENCES

D1. Corals

Under the national institutional framework in place, a 9-month licence may be granted to fish in a given fishing area, and the areas are rotated every 5 years. **No fishing licences were granted** for harvesting red corals in 2021, as no applications were submitted.

D2. Large pelagic species

Fishing targeting large pelagic species: Bluefin tuna (*Thunnus thynnus*), swordfish (*Xiphias gladius*) and albacore (*Thunnus alalunga*), which are covered by a specific management regime, are fished by vessels which, in addition to a general fishing licence, have also been granted a licence to fish the species in question with specific authorised fishing gear.

In **2021** a total of **252 licences** were granted for catching **swordfish** (*Xiphias gladius*) and **albacore** (*Thunnus alalunga*) using LLD, LHM and PS gears. Of these, **17 licences** were issued for albacore using purse seines (PS) only.

In 2021 Greece's initial fishing quota for **bluefin tuna** (*Thunnus thynnus*) was 314.03 tonnes (quota BFT/AE45WM), plus 4.50 tonnes for the Ionian Islands (quota BFT/AVARCH). **113 licences** were issued for fishing with hooks and lines.

Lastly, to ensure that the quota is not exceeded, we cross-check the total live landed weight with the data entered in the port authorities' landing inspection reports, first buyers' sales notes and the tuna catch document (BCD).

D3. Sea cucumbers

Regulatory measures for fishing sea cucumbers of the genus *Holothuria* spp, which may be caught by professional fishers only, for use as bait in professional and recreational fishing, or for human consumption, are laid down in Presidential Decree 48/2018 (GG, Series I, No 90), as amended by Article 78(4) of Law 4582/2018 (GG, Series I, No 208) and subsequently by Article 52(1) of Law 4647/2019 (GG, Series I, No 204), Article 77(1) of Law 4745/2020 (GG, Series I, No 214) and Article 15 of Law 4859/2021 (GG, Series I, No 228). The Decree entered into force on 22 May 2018.

The Decree lays down rational management measures for sea cucumber stocks of the genus *Holothuria* spp, terms and conditions for the fishing activity, authorised periods and fishing grounds, minimum weight, the maximum number of individuals that may be caught, data recording requirements, conservation measures and penalties.

For all of Greece, a total of **117** licences were issued to fish sea cucumbers of the genus *Holothuria* spp for the fishing season starting on 1 November 2020 and ending on 30 April 2021, and **101** licences were issued for the season starting on 1 November 2021 and ending on 30 April 2022.

D4. Narwal shrimp (*Plesionika narval*)

Regulatory measures for fishing narwal shrimp (*Plesionika narval*) are laid down in Decision 1935/128000 of 26 May 2020 (GG, Series II, No 2032, 28.5.2020). The Decision establishes rational management measures for the species (also taking into account socio-economic parameters), terms and conditions for the fishing activity, the authorised gear (FPO) and maximum number of pots and traps that may be used, marking of gear, haul conditions, authorised periods and fishing grounds, data recording and submission requirements and penalties.

Only professional fishers who own a professional fishing vessel may fish narwal shrimp. The vessel must have a fishing licence to carry out this activity. The fishing licence is granted on condition that the vessel has a valid licence to fish with pots and traps (FPO).

Provisional rules were in place for 2021, and Presidential Decree 24/2022 (GG, Series I, No 64), which entered into force on 4 March 2022, regulates fishing of this species on a permanent basis as from 2022.

2. ANALYSIS OF THE BALANCE BETWEEN FISHING CAPACITY AND FISHING OPPORTUNITIES

Stock status assessment

Assessing the balance between fishing capacity and fishing opportunities has been particularly difficult due to missing relevant data as a result of time series interruptions.

The conclusions for the main fleet segments set out below are thus based on a comparative analysis of **available data** from recent years and data obtained through the national fisheries data collection programme, also taking into account biological and socio-economic factors. These have, as far as possible, been updated based on more recent available data from the national fisheries data collection programme for the years from 2018 **up to and including 2022**.

The following section also includes information from the 2021 report on the implementation of the landing obligation under Regulation (EU) 2015/812.

Small pelagic species

*Estimation of anchovy and sardine biomass in the Aegean and Ionian Seas
(Research surveys at sea - MEDIAS)*

The body carrying out MEDIAS surveys in Greek waters is the Hellenic Centre for Marine Research. The data collected is used to estimate the abundance and biomass of anchovy and sardine stocks with a methodology unrelated to fishing, i.e. the acoustic method.

Use of acoustic sampling to estimate the abundance of anchovy and sardine stocks

No MEDIAS survey was carried out in Greece during the implementation of the 2021 fisheries data collection programme (EPSAD) / data collection framework (DCF), as the research vessel 'Philia' was unavailable from September 2020 to December 2021 due to reconstruction. Nor was there any professional fishing vessel available with suitable acoustic equipment, e.g. a sonar, or facilities allowing COVID-19 measures to be implemented.

However, a **thorough re-assessment** was carried out in 2021 of data from the **2019 and 2020 acoustic surveys to estimate the abundance of anchovy in GSA 22**.

A re-assessment was considered necessary following (a) the results of an ichthyoplankton survey carried out in 2019 in the North Aegean at the same time as the acoustics survey conducted using the RV Philia, and (b) estimates made, outside the scope of the DCF, using the daily egg production method.

In particular, the result of the ichthyoplankton survey clearly showed a large abundance of day-0 anchovy eggs, which is seen as evidence of dense aggregations of anchovy schools, in the North Aegean gulfs. Based on this, the daily egg production method was applied (outside the scope of the DCF).

The ‘spawning stock biomass’ estimates were twice as high as the ‘total biomass’ estimates from the acoustic survey.

As this was considered scientifically inconsistent, it was deemed necessary to re-analyse the acoustic data. A new analysis was carried out in the second half of 2021. The audiograms and re-allocation of fish school echoes took into account what is known about the spatial distribution of day-0 anchovy eggs. The re-assessment produced higher anchovy biomass and abundance estimates for 2019 and 2020.

A re-allocation of schools originally thought to be of sardine also led to minor adjustments of the sardine stock estimate.

Based on the updated biomass estimates, the length and age structure of the stocks was also re-assessed and is presented below. The updated population structure was used by the GFCM Working Group on Stock Assessment of Small Pelagic Species in January 2022.

Aegean (GSA 22) 2019 MEDIAS survey (updated estimates)

The size and geographical distribution of anchovy (*Engraulis encrasicolus*) and sardine (*Sardina pilchardus*) stocks in the North Aegean (GSA 22) were estimated using the acoustic method. The methodology used in the acoustic survey is in line with the MEDIAS protocol, ensuring that the results are compatible and comparable with those of other regions of the Mediterranean.

Acoustic signals were recorded continuously with a Simrad ES38-7.38 kHz split-beam transducer along 70 predefined transects in the North Aegean in June-July 2019 (Figure 1). The size of the elementary sampling distance unit (ESDU) was one nautical mile. The integrated deformation was broken down by comparing audiograms at corresponding times. Audiograms were examined for the characteristic signs of anchovy and sardine schools against the acoustic target strength of each species.

The acoustic survey covered a total area of 30 979 km² in the North Aegean. Information on the weight-length ratio and species composition by length and region is required to estimate the anchovy and sardine biomass. To obtain this data, 17 pelagic trawls were pulled along the transects in areas with a high concentration of fish.

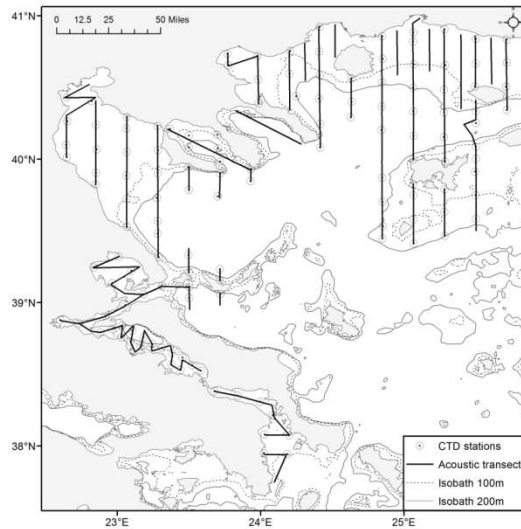


Figure 1 Acoustic sampling transects in the MEDIAS survey in the Greek section of the North Aegean (GSA 22) in June-July 2019.

Updated acoustic sampling maps are presented below, based on a re-assessment of MEDIAS acoustic survey data from the Greek section of the North Aegean (GSA 22).

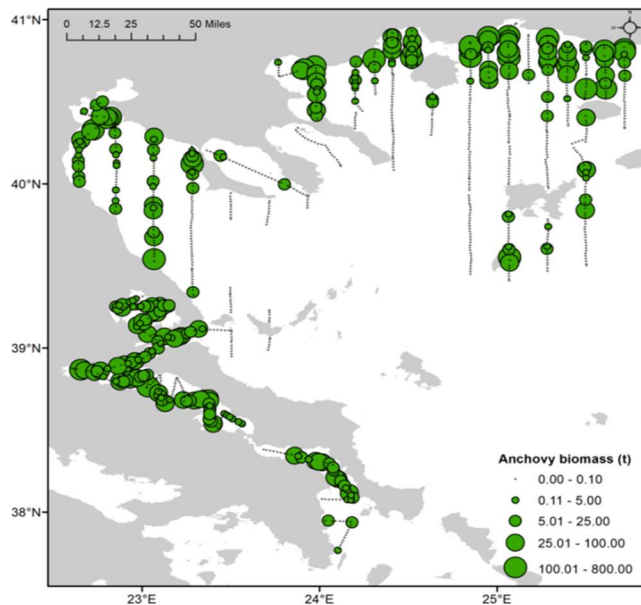


Figure 2 Updated anchovy biomass distribution (tonnes) by EDSU in the North Aegean (GSA 22), June-July 2019.

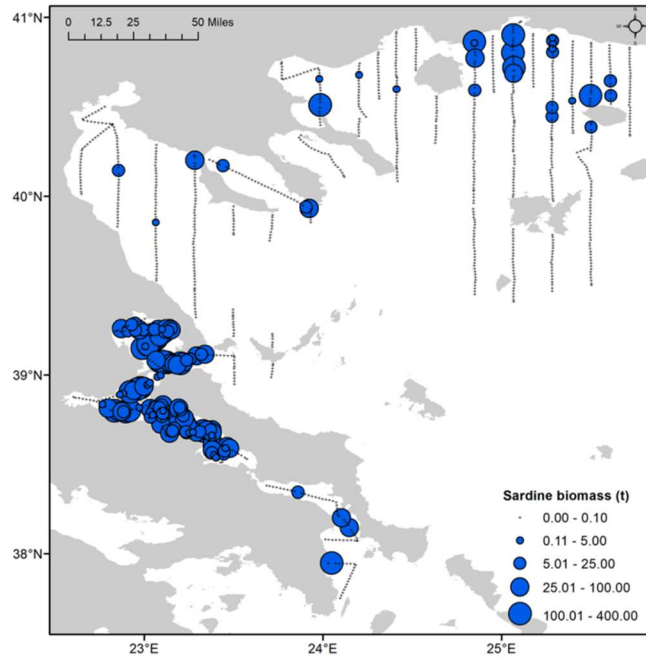


Figure 3 Updated sardine biomass distribution (tonnes) by EDSU in the North Aegean (GSA 22), June-July 2019.

Aegean (GSA 22) 2020 MEDIAS survey (updated estimates)

The size and geographical distribution of anchovy (*Engraulis encrasicolus*) and sardine (*Sardina pilchardus*) stocks in the North Aegean (GSA 22) were estimated using the acoustic method. The methodology used in the acoustic survey is in line with the MEDIAS protocol, ensuring that the results are compatible and comparable with those of other regions of the Mediterranean.

Acoustic signals were recorded continuously with a Simrad ES38-7.38 kHz split-beam transducer along 39 predefined transects in the North Aegean in June-July 2020 (Figure x). The size of the elementary sampling distance unit (ESDU) was one nautical mile. The integrated deformation was broken down by comparing audiograms at corresponding times. Audiograms were examined for the characteristic signs of anchovy and sardine schools against the acoustic target strength of each species.

The acoustic survey covered a total area of 29 161 km² in the North Aegean. Information on the weight-length ratio and species composition by length and region is required to estimate the anchovy and sardine biomass. To obtain this data, 15 pelagic trawls were pulled along the transects in areas with a high concentration of fish.

Updated acoustic stock assessments, based on a re-assessment of recorded audiograms, are presented below.

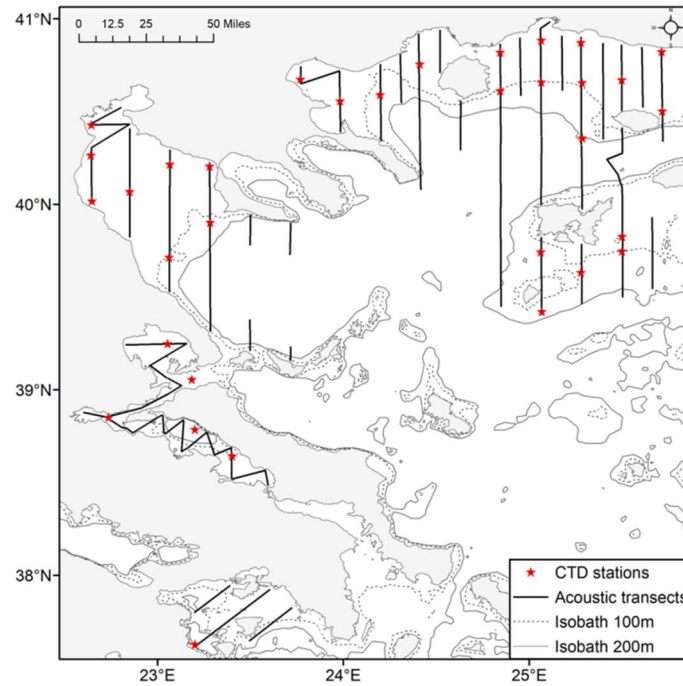


Figure 4. Overall NASC (m^2/nm^2) stock distribution by EDSU in the North Aegean (GSA 22), June-July 2020.

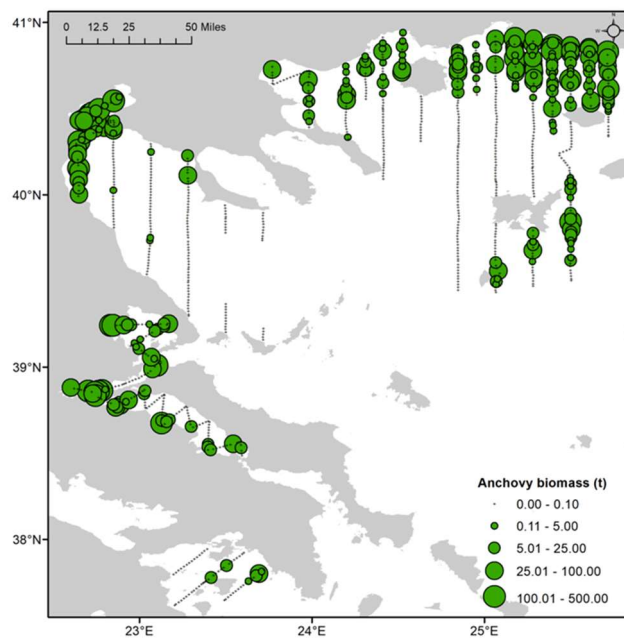


Figure 5. Updated anchovy biomass distribution (tonnes) by EDSU in the Greek section of the North Aegean (GSA 22), June-July 2020.

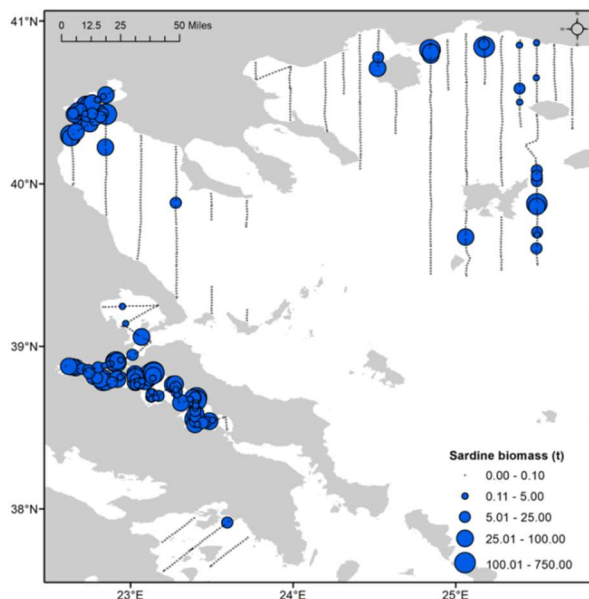


Figure 6. Updated sardine biomass distribution (tonnes) by EDSU in the Greek section of the North Aegean (GSA 22), June-July 2020.

The anchovy and sardine abundance indicators and any biological information from the MEDIAS surveys carried out in Greece are used on a regular basis in both an international (GFCM) and national context to assess anchovy and sardine stocks in Greek waters.

The updated 2019 and 2020 abundance estimates and indicators for GSA 22 summarised below will be included in more detail in the 2022 report on the fisheries data collection programme (EPSAD/DCF) for GSA 22.

Anchovy and sardine:

- Number of individuals / age
- Biomass / age / target species
- Number of individuals / length class
- Biomass / length group / target species

Table 1. Re-assessed biomass estimate for **anchovy in the Aegean** by length class, based on the results of the **2019** acoustic survey.

Aegean Sea (GSA 22)		
Total biomass (t): 63 377.880		
Length class	Number of individuals	Biomass (t)
45	791 101	0.32
55	395 188	0.30
65	395 188	0.51
75	0	0.00
85	16 473 177	50.71
95	829 747 621	3 648.72

Aegean Sea (GSA 22)		
Total biomass (t): 63 377.880		
Length class	Number of individuals	Biomass (t)
105	2 820 371 985	17 095.67
115	3 102 535 499	25 176.34
125	755 948 255	8 014.81
135	444 393 630	6 030.48
145	180 471 125	3 079.73
155	13 262 365	280.29
Sum	8 164 785 133	63 378

Table 2. Re-assessed biomass estimate for **anchovy in the Aegean** by length class, based on the results of the **2020** acoustic survey.

Aegean Sea (GSA 22)		
Total biomass (t): 52 219.29		
Length class	Number of individuals	Biomass (t)
75	795 677	2
85	2 099 947	8
95	34 890 635	192
105	883 245 418	6 855
115	1 391 088 042	14 753
125	1 281 733 238	18 096
135	508 208 876	9 344
145	116 804 579	2 744
155	7 601 714	225
Sum	4 226 468 127	52 219.29

Table 3. Re-assessed biomass estimate for **anchovy in the Aegean** by age group, based on the results of the **2019** acoustic surveys.

Aegean Sea		
Age	Number of individuals	Biomass (t)
0	18 054 654	51.839
1	7 115 754 118	50 889.866
2	1 022 382 497	12 289.521
3	8 593 864	146.654
Sum	8 164 785 133	63 378

Table 3. Re-assessed biomass estimate for **anchovy in the Aegean** by age group, based on the results of the **2020** acoustic surveys.

Aegean Sea		
Age	Number of individuals	Biomass (t)
0	22 674 406	147.61
1	3 131 324 667	35 032.02
2	1 054 033 809	16 658.66
3	18 435 245	381.00
Sum	52 219 290	52 219.29

The report on updated estimates from the 2019 and 2020 MEDIAS surveys is available on the website of the MEDIAS Coordination Group at <http://www.medias-project.eu/medias/website/>.

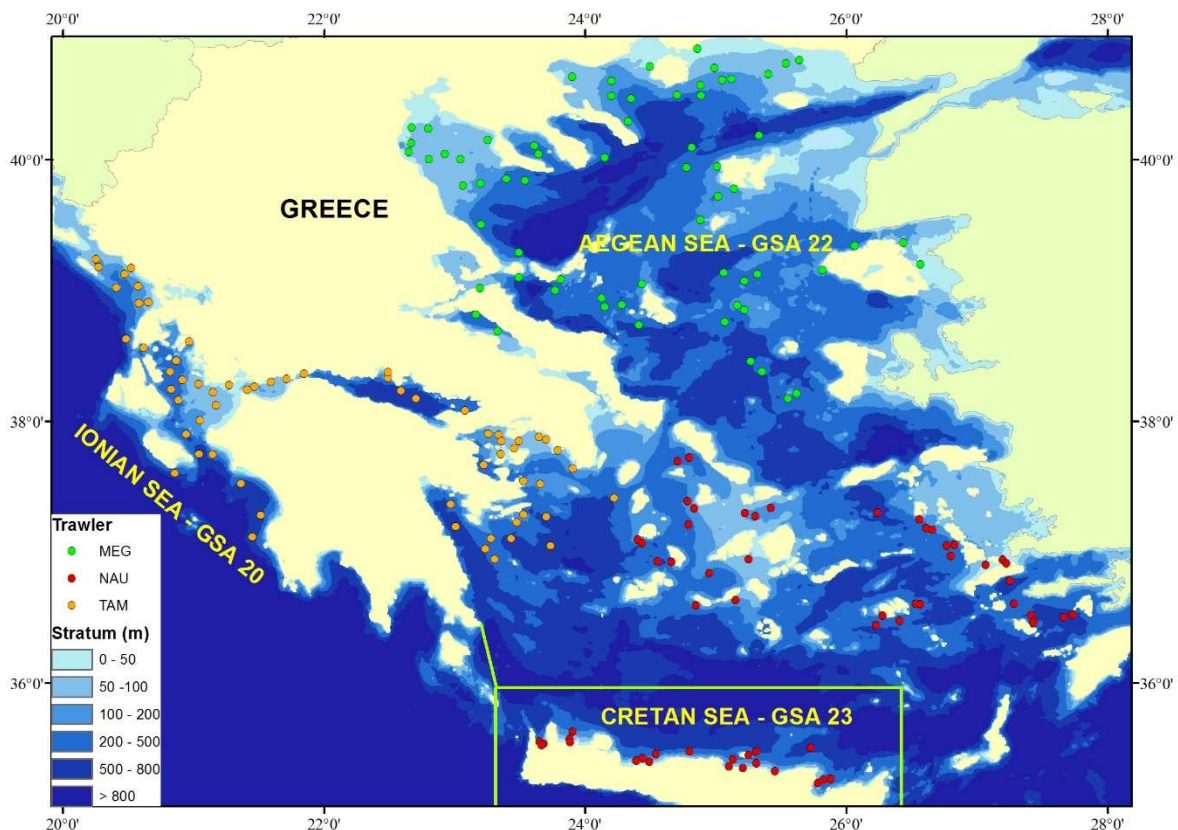
Demersal species

The MEDITS survey programme is conducted annually in several areas of the Mediterranean according to a standardised protocol, with the aim of coordinating all experimental sampling with bottom trawls (MEDITS) carried out across the Mediterranean.

The main objective of MEDITS survey sampling is to monitor spatial and temporal variations in the abundance of demersal fish stocks.

The latest available data, pertaining to 2020, are presented below; the 2021 results are still being analysed. The figures are more recent than those presented in the previous annual report.

The 2020 sampling exercise was carried out at all selected stations in **all areas** planned, i.e. the Ionian, Aegean and Cretan Seas (GSA 20, 22 and 23); see the figure below where each of the three fishing vessels used is shown in a different colour.



Map of sampling locations

The MEDITS-GR plan is based on 184 fixed sampling stations distributed randomly in five depth zones: 10-50 m, 50-100 m, 100-200 m, 200-500 m and 500-800 m. The same sampling plan is followed each year.

In 2020 the total weight and the number of individuals collected at each sampling station was recorded by species for all species of fish, cephalopods and crustaceans. Data on individual size, sex and reproductive maturity were recorded together with the age study in line with the lists of species set out in the MEDITS manual (version 9).

Data on water temperature, salinity and depth at each sampling station was also collected using special sensors, in addition to data on by-catches and discards by sampling station in accordance with the relevant protocols.

The 2020 sampling exercise was carried out at all selected stations in all areas planned, i.e. the Ionian, Aegean and Cretan Seas (GSAs 20, 22 and 23).

The exercise involved scientists from the Fisheries Research Institute based in Kavala, which conducted sampling in the North and central Aegean, and from the two branches of the Marine Biological Resources and Inland Waters Institute of the Hellenic Centre for Marine Research, that is: (a) the Athens branch, which carried out sampling in the Argosaronic Gulf, the Gulf of Corinth and the Ionian Sea, and (b) the Crete branch, which carried out sampling in the South Aegean and the Cretan Sea.

Three professional trawlers with the required technical specifications were rented, through tendering procedures, to conduct the experimental sampling.

All samples were taken between 25 June and 4 September 2020.

The Fisheries Research Institute carried out the sampling in the North and central Aegean with the Thessaloniki-registered vessel 'Megalochari 1031'. The sampling took place at 65 stations.

The Marine Biological Resources and Inland Waters Institute and the Crete branch of the Hellenic Centre for Marine Research carried out sampling in the South Aegean and the Cretan Sea with the Chios-registered vessel 'Nautilus 154'.

The sampling took place at 63 stations. The Marine Biological Resources and Inland Waters Institute and the Athens branch of the Hellenic Centre for Marine Research carried out sampling in the Argosaronic Gulf and the Ionian Sea using the Chios-registered vessel 'Takis-Mimis 411'. The sampling took place at 56 stations.

Table 2.A.1. Fishing effort in **2020** (days at sea, days x GT, days x kW) by geographic sub-region (GSA), metier and length class of the fleet.

Metier	Vessel length class	Quarter	Geographical sub-region (GSA) 20			Geographical sub-region (GSA) 22			Geographical sub-region (GSA) 23		
			Total days at sea	Days at sea x kW	Days at sea x GT	Total days at sea	Days at sea x kW	Days at sea x GT	Total days at sea	Days at sea x kW	Days at sea x GT
Traps											
FPO	VL0006	1	609	4 456	387	3 363	30 924	1 894			
FPO	VL0006	2	578	4 345	375	3 688	35 181	2 094			
FPO	VL0006	3	597	4 573	393						
FPO	VL0006	4	586	4 386	379	705	4 701	247			
FPO	VL0612	1				12 052	368 607	23 584			
FPO	VL0612	2				12 496	386 417	26 260			
FPO	VL0612	3				5 874	153 555	9 227			
FPO	VL0612	4				11 542	364 703	27 651			
FPO	VL1218	1				288	26 797	3 889			
FPO	VL1218	2				366	31 876	5 418			
FPO	VL1218	3				386	31 450	5 317			
FPO	VL1218	4				275	20 198	3 543			
FPO Total			2 370	17 760	1 534	51 035	1 454 409	109 124			
Gillnets											
GNS	VL0006	1	1 722	14 911	1 152	4 351	31 500	2 864	1 707	13 107	1 111
GNS	VL0006	2	1 630	14 238	1 090	10 124	140 621	9 659	1 036	7 954	674
GNS	VL0006	3	1 650	14 548	1 106	9 853	336 175	9 644	591	4 540	385
GNS	VL0006	4	1 638	14 311	1 097	9 367	256 666	8 437	1 573	12 074	1 024

GNS	VL0612	1	13 759	289 007	34 750	39 893	1 117 990	128 001	572	10 867	1 639
GNS	VL0612	2	15 027	317 122	38 085	58 764	1 935 449	196 440	601	11 421	1 722
GNS	VL0612	3	11 812	249 580	30 025	72 744	2 360 715	239 880	577	10 963	1 653
GNS	VL0612	4	10 103	211 166	25 482	45 780	1 424 830	144 527	314	5 973	901
GNS	VL1218	1	79	3 879	1 023	313	27 271	4 799	82	10 771	1 917
GNS	VL1218	2	73	3 745	789	561	49 797	8 953	119	17 177	2 801
GNS	VL1218	3	134	6 466	1 889	497	43 306	8 408	105	15 381	2 475
GNS	VL1218	4	63	2 918	993	393	37 680	6 047	54	6 899	1 259
GNS Total			57 690	1 141 891	137 481	252 640	7 762 000	767 659	7 331	127 127	17 561
Trammel nets											
GTR	VL0006	1	24 809	210 904	16 390	28 678	266 000	25 686	3 300	32 427	2 291
GTR	VL0006	2	28 777	244 765	19 052	31 512	469 474	26 609	1 726	16 956	1 198
GTR	VL0006	3	34 596	294 446	23 001	21 028	259 667	17 009	1 825	17 933	1 267
GTR	VL0006	4	25 252	214 745	16 666	19 383	351 099	14 793	3 145	30 895	2 182
GTR	VL0612	1	56 644	1 078 345	128 790	82 910	2 376 078	253 773	9 360	185 296	27 837
GTR	VL0612	2	59 497	1 131 619	135 130	90 602	2 513 890	287 711	11 393	225 537	33 883
GTR	VL0612	3	58 128	1 102 911	131 708	78 681	2 115 579	252 044	12 550	248 444	37 324
GTR	VL0612	4	56 757	1 077 753	128 686	72 148	2 052 845	224 712	12 371	244 893	36 791
GTR	VL1218	1	305	26 347	4 488	1 900	158 936	29 008	154	10 520	2 145
GTR	VL1218	2	526	43 731	8 442	3 523	306 702	55 491	389	28 700	5 881
GTR	VL1218	3	518	46 988	8 583	3 732	333 426	57 743	313	22 030	4 504
GTR	VL1218	4	221	18 263	3 760	2 489	206 774	37 357	165	11 392	2 173
GTR Total			346 030	5 490 817	624 696	436 586	11 410 470	1 281 936	56 691	1 075 023	157 476
Bottom longline											
LLS	VL0006	1	3 381	29 000	2 173	14 743	138 346	12 243	907	7 330	635
LLS	VL0006	2	3 531	30 449	2 273	12 698	118 999	9 989	2 588	20 918	1 812
LLS	VL0006	3	3 717	32 050	2 393	28 696	242 378	21 731	1 492	12 054	1 044
LLS	VL0006	4	3 416	29 269	2 194	15 523	147 784	12 038	2 368	19 134	1 657

LLS	VL0612	1	9 452	191 473	23 748	37 884	963 721	114 182	1 798	37 839	5 427
LLS	VL0612	2	9 942	200 514	24 906	43 175	1 074 576	130 399	2 025	42 623	6 113
LLS	VL0612	3	10 272	206 194	25 652	50 815	1 312 482	156 936	2 800	58 934	8 453
LLS	VL0612	4	9 428	189 379	23 557	52 207	1 353 417	160 959	1 757	36 975	5 303
LLS	VL1218	1	74	3 156	1 005	642	59 993	11 609	57	5 800	866
LLS	VL1218	2	9	384	122	1 297	121 824	22 760	111	15 302	1 661
LLS	VL1218	3	2	191	30	1 490	138 056	26 178	124	21 572	1 908
LLS	VL1218	4	31	2 952	458	979	91 382	18 034	98	14 516	1 424
LLS Total			53 255	915 011	108 511	260 149	5 762 958	697 058	16 125	292 997	36 303
Trawlers											
OTB	VL1218	1				18	1 532	368			
OTB	VL1218	2				10	1 581	280			
OTB	VL1218	3				8	1 264	224			
OTB	VL1218	4				27	2 195	543			
OTB	VL1824	1	912	219 943	48 408	4 452	1 245 690	236 989	127	22 830	5 419
OTB	VL1824	2	442	111 153	24 514	2 286	647 920	122 978	82	14 837	3 496
OTB	VL1824	3	316	73 434	19 515	753	197 388	39 053			
OTB	VL1824	4	855	204 675	44 939	4 542	1 262 430	237 703	162	34 239	6 472
OTB	VL2440	1	1 324	371 544	163 355	8 558	2 720 305	1 151 048	366	110 756	50 763
OTB	VL2440	2	569	157 922	69 533	4 881	1 548 290	661 336	228	68 595	32 148
OTB	VL2440	3	253	73 993	30 990	2 734	877 283	400 403	38	12 308	5 853
OTB	VL2440	4	971	267 827	122 561	8 264	2 625 305	1 107 048	474	151 427	59 767
OTB Total			5 642	1 480 491	523 815	36 533	11 131 183	3 957 973	1 477	414 992	163 918
Purse seines used at night											
PS	VL1218	1	196	25 625	4 224	1 163	145 959	23 898	25	4 701	712
PS	VL1218	2	483	67 729	10 365	2 589	338 216	59 225	122	23 017	3 452
PS	VL1218	3	677	94 373	14 526	3 229	430 080	74 276	150	26 636	3 972

PS	VL1218	4	377	51 441	8 408	2 011	262 449	45 167	120	20 534	3 153
PS	VL1824	1	342	72 420	12 332	1 617	351 102	81 082	20	3 212	627
PS	VL1824	2	966	195 951	34 764	4 711	1 002 749	233 859	156	24 138	7 034
PS	VL1824	3	1 175	219 212	44 254	6 555	1 410 744	330 706	162	24 133	6 696
PS	VL1824	4	638	114 810	23 634	3 395	705 182	169 312	48	7 901	1 808
PS	VL2440	1				933	217 004	86 502			
PS	VL2440	2				1 685	410 868	152 906			
PS	VL2440	3				2 192	540 602	201 486			
PS	VL2440	4				1 086	250 665	99 920			
PS Total			4 854	841 561	152 507	31 166	6 065 620	1 558 339	803	134 272	27 454
Winch trawlers		SB									
SB	VL0006	1	150	662	65						
SB	VL0006	4	143	630	61						
SB	VL0612	1	5 075	236 586	25 146	7 873	423 883	41 857			
SB	VL0612	4	5 533	251 353	25 811	10 593	573 243	56 585			
SB	VL1218	1	246	25 633	3 254	2 785	305 674	41 906			
SB	VL1218	4	348	36 262	4 603	3 527	383 875	53 339			
SB Total			11 495	551 126	58 940	24 778	1 686 675	193 687			

Experts have carried out a preliminary assessment of data from the national fisheries data collection programme of previous years as regards the biological indicators for demersal species in the Aegean (GSA 22), which showed that the hake stock is in a precarious state, with an F/F_{msy} ratio above 1 (maximum permissible exploitation ratio); see Chapter III of this report.

An indicator value above 1 means that, on average, a fleet segment depends for its revenue on fishing opportunities which in structural terms have been set above levels of exploitation allowing maximum sustainable yields (MSY) to be achieved. This may be a sign of imbalance if it occurs for 3 successive years.

In accordance with the precautionary approach, which is a basic principle of the common fisheries policy, and to pursue the CFP objectives of conserving living aquatic resources, protecting marine ecosystems and promoting their sustainable exploitation, appropriate management measures were taken, based on adequate scientific evidence.

Reducing fishing capacity by scrapping vessels which target this species among others, using nets and longlines and bottom otter trawls as fishing gear, is expected to help achieve this objective. Permanent cessation through scrapping took place in 2018 and 2019.

From 2009 to 2018 there was a downward trend in small-scale coastal fishing, whereas 2019 and 2020 saw a slight improvement according to the 'observation-based' technical indicator. In **2021** the indicator values improved compared to 2020 for fleet segment VL0006 but fell slightly for segments VL0612 and VL1218, although they still remained relatively stable compared to previous years, especially taking into account the impact of the COVID-19 pandemic in both 2020 and 2021.

A factor that is likely to have influenced the negative trend of this indicator is the rising age of fishers, who may therefore be less able or motivated to make regular fishing trips.

For trawlers in segment VL2440 the rising trend from 2020 continued, whereas the indicators have remained stable in segment VL1824. In segment VL1218 (for which a value could again be calculated) the indicator was significantly higher than in 2018 (the most recent year with comparable data). However, the values fell compared to 2020 in all purse seiner segments (with just a small decrease in segments VL1824 and VL2440).

Reduced fishing effort due to the ever-increasing cost of fuel and reduced sales prices for catches, in addition to the COVID-19 pandemic, are likely to have contributed to the above indicator values.

VESSEL USE INDICATORS

Year	Fleet	Length	Technical indicator (observed)	Technical indicator (theoretical)
2021	OTB	VL1218	0.73	0.37
		VL1824	0.74	0.68
		VL2440	0.88	0.84
	PS	VL1218	0.76	0.61
		VL1824	0.76	0.70
		VL2440	0.74	0.71
	Coastal	VL0006	0.66	0.35
		VL0612	0.72	0.52
		VL1218	0.52	0.31
2020	OTB	VL1218 ¹	–	–
		VL1824	0.74	0.68
		VL2440	0.87	0.83
	PS	VL1218	0.77	0.62
		VL1824	0.77	0.71
		VL2440	0.84	0.81
	Coastal	VL0006	0.55	0.23
		VL0612	0.77	0.56
		VL1218	0.65	0.39
2019	OTB	VL1218 ¹	–	–
		VL1824	0.71	0.65
		VL2440	0.91	0.88
	PS	VL1218	0.75	0.60
		VL1824	0.87	0.81
		VL2440	0.99	0.96
	Coastal	VL0006	0.64	0.43
		VL0612	0.77	0.64
		VL1218	0.39	0.32
2018	OTB	VL1218	0.32	0.23
		VL1824	0.77	0.71
		VL2440	0.82	0.78
	PS	VL1218	0.38	0.28
		VL1824	0.59	0.54
		VL2440	0.78	0.69
	Coastal	VL0006	0.62	0.46
		VL0612	0.71	0.61
		VL1218	0.50	0.39

¹ The indicator is not suitable for statistical use as the segment includes very few vessels (fewer than five) with a very low level of activity.

2016	OTB	VL1218	0.34	0.25
		VL1824	0.80	0.73
		VL2440	0.84	0.80
	PS	VL1218	0.40	0.30
		VL1824	0.58	0.53
		VL2440	0.79	0.68
	Coastal	VL0006	0.66	0.45
		VL0612	0.73	0.59
		VL1218	0.24	0.20
2015	OTB	VL1218	0.41	0.25
		VL1824	0.83	0.74
		VL2440	0.86	0.81
	PS	VL1218	0.41	0.32
		VL1824	0.65	0.55
		VL2440	0.88	0.71
	Coastal	VL0006	0.68	0.43
		VL0612	0.75	0.56
		VL1218	0.25	0.19
2014	OTB	VL1218	0.36	0.23
		VL1824	0.74	0.68
		VL2440	0.76	0.75
	PS	VL1218	0.36	0.29
		VL1824	0.61	0.50
		VL2440	0.73	0.64
	Coastal	VL0006	0.72	0.41
		VL0612	0.81	0.53
		VL1218	0.34	0.18
2013	OTB	VL1218	0.38	0.24
		VL1824	0.77	0.70
		VL2440	0.77	0.79
	PS	VL1218	0.38	0.30
		VL1824	0.63	0.51
		VL2440	0.74	0.66
	Coastal	VL0006	0.75	0.42
		VL0612	0.83	0.55
		VL1218	0.35	0.19
2012	OTB	VL1218	0.37	0.24
		VL1824	0.77	0.71
		VL2440	0.79	0.76
	PS	VL1218	0.38	0.30
		VL1824	0.63	0.52
		VL2440	0.75	0.66
	Coastal	VL0006	0.75	0.42
		VL0612	0.85	0.56
		VL1218	0.36	0.19

2011	OTB	VL1218	0.38	0.24
		VL1824	0.77	0.70
		VL2440	0.78	0.76
	PS	VL1218	0.37	0.30
		VL1824	0.63	0.53
		VL2440	0.74	0.68
	Coastal	VL0006	0.75	0.43
		VL0612	0.85	0.56
		VL1218	0.35	0.19
2010	OTB	VL1218	0.37	0.24
		VL1824	0.76	0.72
		VL2440	0.80	0.79
	PS	VL1218	0.37	0.30
		VL1824	0.64	0.51
		VL2440	0.76	0.66
	Coastal	VL0006	0.76	0.42
		VL0612	0.84	0.54
		VL1218	0.35	0.19
2009	OTB	VL1218	0.38	0.24
		VL1824	0.76	0.72
		VL2440	0.78	0.78
	PS	VL1218	0.37	0.30
		VL1824	0.64	0.53
		VL2440	0.74	0.68
	Coastal	VL0006	0.76	0.43
		VL0612	0.85	0.56
		VL1218	0.35	0.19

Information from the report on the implementation of the landing obligation

The following information concerning Greek-registered vessels was submitted for the purposes of the **2021** report on the implementation of the landing obligation to be drawn up by the European Commission.

I. Rules applicable in 2021

(a) For small pelagic species for which a minimum size is laid down in Annex IX to Regulation (EU) 2019/1241, specifically anchovy, sardine, mackerel and horse mackerel, Commission Delegated Regulation (EU) No 1392/2014 established a discard plan, including *de minimis* exemptions under Article 15(5)(c) of Regulation (EU) No 1380/2013. This regulation was replaced by Delegated Regulation (EU) 2018/161, which was amended by Delegated Regulation (EU) 2020/2012 to extend its period of application to 31 December 2023.

Under the discard plan it is permitted, by way of derogation from Article 15(1) of Regulation (EU) No 1380/2013, to discard up to 3% of the total annual catches of the aforementioned

species fished using purse seines in the Ionian Sea. The same derogation applies to the same species caught using purse seines in the Aegean Sea and off Crete.

(b) Bluefin tuna, for which a catch limit applies:

Fishing vessels targeting bluefin tuna are permitted, under a derogation from Article 15(2) of Regulation (EU) No 1380/2013 laid down by Commission Delegated Regulation (EU) 2015/98, to retain on board, tranship, transfer, land, transport, store, sell, etc. by-catches of up to 5% of the total tuna catch per landing, in terms of the number of individuals, subject to a minimum size (between 8 kg/75 cm and 30 kg/115 cm).

(c1) Certain benthic species typically caught:

A discard plan with *de minimis* exemptions is in place under Commission Delegated Regulation (EU) 2017/86, as amended by Regulations (EU) 2018/2036 and 2020/4.

Under the discard plan it is permitted, by way of derogation from Article 15(1) of Regulation (EU) No 1380/2013, to discard up to 5% of the total catches in 2021 of the aforementioned species fished using bottom otter trawls in the Ionian Sea. The same derogation applies to the same species caught using bottom otter trawls in the Aegean Sea and off Crete. In addition, a derogation for the same areas and species allows discards of up to 1% of the total annual catches of coastal vessels fishing with gillnets and trammel nets or a combination of these (GTN, GNS, GTR).

(d) Swordfish, for which a catch limit applies:

Since 1 January 2017 there has been a catch limit on Mediterranean swordfish (MedSWO) (ICCAT Recommendation 16-05). It allows fishing vessels targeting Mediterranean swordfish to retain on board, tranship, transfer, land, transport, store, sell, etc. by-catches of swordfish of up to 5%, by weight or by the number of individual swordfish in the total catch per landing, of below the minimum size of 11.4 kg (whole weight) or 10.2 kg (gilled and gutted weight) or less than 100 cm in length. The above provisions of ICCAT Recommendation 16-05 were incorporated into EU law by Regulation (EU) 2018/191.

(e) Certain demersal species:

A discard plan with *de minimis* exemptions is in place under Delegated Regulation (EU) 2018/2036, as amended by Regulation (EU) 2020/4.

Under the discard plan it is permitted, by way of derogation from Article 15(1) of Regulation (EU) No 1380/2013, to discard up to 5% of the total catches in 2021 of the aforementioned species fished using bottom otter trawls in the Ionian Sea. The same derogation applies to the same species caught using bottom otter trawls in the Aegean Sea and off Crete. In addition, a derogation for the same areas and the same species allows discards of up to 3% of the total annual catches of coastal vessels fishing with gillnets and trammel nets or a combination of these (GTN, GNS, GTR) and up to 1% of the total annual catches of coastal vessels fishing with hooks and lines (LLD, LLS, LHM, LHP, LTL).

All undersized catches of Norway lobster caught with bottom trawls and traps, crawfish and lobster caught with traps or with gillnets and trammel nets (or a combination of these) can also be discarded.

Finally, it is permitted to discard up to 5% of undersized individuals in by-catches of sardine, anchovy, mackerel and horse mackerel caught with bottom trawls.

II. Action taken to inform the parties concerned

The Directorate-General for Fisheries issued circulars to inform the regional fisheries departments, fisheries bodies and the competent control authorities of the provisions of Regulation (EU) No 1380/2013 concerning the landing obligation and the applicable derogations.

As regards the implementation of the landing obligation in 2021, we issued a document (**ref. 4924/364385 of 30 December 2020**) with information about the provisions of Regulation (EU) 2020/4 and a general update on the applicable derogations.

In addition, a notice has been posted on the publicly accessible webpage of the Directorate-General for Fisheries (<http://www.alieia.minagric.gr/node/324>), and on the official website of the Ministry of Rural Development and Food. Information is also included in the various forms to be used in connection with fishing licences issued annually.

III. Data collection

(a) ERS data

The electronic recording system (ERS) allows normal catches and any undersized catches (in terms of quantities or, where required, individuals) to be recorded in the fishing logbook and the landing declaration (creation of different lots). Specifically for bluefin tuna (BFT), records are based on the weight and length of each individual. The following data is extracted from the ERS:

i) Species subject to a catch limit

a) Bluefin tuna (BFT)

According to the preliminary ERS data available, in 2021 the quantities (live weight) of normal and undersized individuals of bluefin tuna were as follows:

Total weight (kg) (Weight_Q)	326 148
Total number of individuals	6 307
Weight (kg) of normal individuals (larger than the minimum)	313 630
Number of individuals	5 838
Percentage of total weight	96.16%
Percentage of all individuals	92.56%
Weight of undersized individuals	12 518
Number of individuals	469
Percentage of total weight	3.84%
Percentage of all individuals	7.44%

b) Swordfish (SWO)

According to the preliminary ERS data available, the (landed) quantities of normal and undersized individuals of swordfish were as follows in 2021:

Total weight (kg)	684 996.5
Total number of individuals	31 801
Weight (kg) of normal individuals (larger than the minimum)	682 143
Percentage of total weight	99.58%
Weight of undersized individuals	2 853
Percentage of total weight	0.42%

All tuna and swordfish catches are inspected by the competent port authorities.

ii) Small pelagic species

The following table shows catches of anchovy, sardine, mackerel and horse mackerel and total declared discards in 2021 according to the available OSPA (ERS) data. Note, however, that records of undersized individuals, from both landings and discards, are incomplete due to the particular conditions that prevailed in 2021, when fishing activity was restricted due to the COVID-19 pandemic.

Species	Code	Catches (kg)	Discards (kg)	Percentage (%)
Anchovy	ANE	7 677 908	22	0.000
Horse mackerel	RJR	1 267 533	615.5	0.048
Mackerel	MAC-MA (MAS)	1 274 889	2	0.000
Sardine	PIL	7 642 683	1 511.5	0.020

iii) Benthic species typically caught

The following table shows hake, red mullet and giant red shrimp catches and total declared discards in 2021 according to the available OSPA (ERS) data. Note, however, that records of undersized individuals, from both landings and discards, were insufficient due to the particular conditions that prevailed in 2021, when fishing activity was restricted owing to the COVID-19 pandemic.

Species	Code	Catches (kg)	Discards (kg)	Percentage (%)
Hake	HKE	2 608 335	333	0.013
Striped mullet	MUT	1 380 887	881	0.064
Giant red shrimp	DPS	2 404 305	0	0.000

iv) Other demersal species

Table 1 below shows catch data in kilograms, broken down by species and gear, for 31 species and 11 types of gear for which derogations from the landing obligation were in place in 2021, as well as total catches and total declared species by gear for vessels, regardless of length, that keep an electronic fishing logbook (ERS) or make electronic catch declarations in accordance with the legislation in force.

2021_PRODUCTION (kg)													Total quantity (kg)	
s/n	FAO CODE	FPO	GNS	GTN	GTR	LHM	LHP	LLD	LLS	LTL	OTB	PS		
1	ANE	2	610	1.147	3.082			13	213	150	420.891	7.251.800	7.677.908	
2	ANN	675	6.214	13.944	27.335	299		722	5.326	158	903	3.751	59.326	
3	BFT					18.527	32.749	274.515	357				326.148	
4	BSS	14.602	7.116	45.421	102.424	1.902	129	298	20.052	619	3.446	10.520	206.528	
5	CTB	53	2.029	6.178	3.424	62		30	3.294	16	529	9.404	25.019	
6	DPS	142	443	1.685	5.368			8	75		2.396.573	11	2.404.305	
7	EEA	104	889	3.694	8.104	113.370	66	592	33.562	1.135	336		161.851	
8	EFJ			136	50				491		16		693	
9	GPD	255	930	3.657	13.739	66.441	9	366	30.520	979	257	40	117.193	
10	GPW	202	655	2.636	5.813	19.569	136	274	17.572	1.618	15.512	41	64.026	
11	HKE	1.007	235.351	132.116	67.421	590		3.695	161.729	852	2.005.379	196	2.608.335	
12	JAX	2.146	81.309	53.159	65.378	2.107		165	4.885	759	607.013	450.614	1.267.533	
13	LBE			165	557				21		249		992	
14	MAC	17	5.366	9.810	4.255	1.792		15	414	308	37.748	25.297	85.022	
15	VMA (MAS)	153	31.570	38.987	26.486	2.332	262	63	1.715	736	47.014	1.040.549	1.189.867	
16	MUR	1.615	38.341	93.952	187.988	7.546		424	5.830	370	254.224	1.024	591.314	
17	MUT	1.928	82.118	114.043	145.010	138	5	769	3.937	490	1.031.515	934	1.380.887	
18	NEP	3.938	3.864	4.453	8.425			4	217	1	221.974		242.875	
19	PAC	991	15.922	42.853	78.790	3.437	283	727	48.748	320	251.708	5.130	448.908	
20	PIL	8.710	34.911	127.821	35.864	26		489	840	7	209.127	7.642.683	8.060.477	
21	RPG	1.520	11.094	20.196	57.183	120.047	1.457	1.611	152.235	2.448	25.574	9.965	403.328	
22	SBA	456	2.243	6.934	20.355	1.355	43	10	4.103	145	21.515	729	57.888	
23	SBG	4.412	10.606	62.959	106.361	7.508	543	1.311	55.418	1.209	59.281	67.875	377.482	
24	SBR	5.181	4.739	15.461	49.196	1.997		19	2.930	554	4.521	2.055	86.652	
25	SHR	2	129	965	294				147		180	3.549	5.265	
26	SLO	3.241	3.009	7.900	50.089	50		13	585	94	603	106	65.689	
27	SOL	22.692	4.256	17.523	51.484	41		66	659		37.940	19	134.680	
28	SSB	229	2.100	8.915	22.703	508		12	5.091	84	38	6.050	45.729	
29	SWA	2.125	6.866	22.647	64.008	46.022	4	1.615	73.572	621	2.338	5.314	225.132	
30	SWO			138		49	89	672.978	11.692	38			12	684.996
31	WRF	30	139	283	803	474	40	68	3.730	95	485	8	6.155	
	TOTAL QUANTITY OF SPECIES UNDER LO PER GEAR	76.426	592.817	859.777	1.211.985	416.187	35.815	960.873	649.955	13.805	7.656.888	16.537.676	29.012.204	
	TOTAL QUANTITY (ALL SPECIES) PER GEAR	981.161	1.332.206	2.218.913	3.465.008	751.841	53.859	1.192.909	1.021.987	92.650	13.803.612	21.935.106	46.849.250	
	Percentage (%)	7,79	44,50	38,75	34,98	55,36	66,50	80,55	63,60	14,90	55,47	75,39	61,93	
	TOTAL NUMBER OF SPECIES UNDER LO PER GEAR	27	27	30	29	25	14	28	31	25	29	26		
	TOTAL NUMBER OF SPECIES PER GEAR (ALL SPECIES)	97	145	163	175	102	42	93	151	90	136	99		
	Percentage (%)	27,84	18,62	18,40	16,57	24,51	33,33	30,11	20,53	27,78	21,32	26,26		
	Number of VESSELS PER GEAR	611	2143	2883	6056	777	70	305	2529	473	218	209		
	FAO Gear CODE	FPO	GNS	GTN	GTR	LHM	LHP	LLD	LLS	LTL	OTB	PS		

v) Discards reported in OSPA, the integrated monitoring and recording system for fishing activities

Table 2 below shows discard data reported in OSPA (from the OSPA recording system).

Table 2 ERS Discards 2021				
FAO COD	Quantity (No of vessel	No of record	Month, where declared
ANE	22	3	21	January, Febr, March, May, Sept.,Oct., Dec.
ANN	343,5	5	56	Jan,Febr.,March, April, May, Dec.
BFT				
BSS				
CTB				
DPS				
EEA				
EFJ				
GPD				
GPW				
HKE	333	6	42	All months except March, December.
JAX	615,5	6	71	Jan., March, April, May, Aug., Sept.,Oct., Dec.
LBE				
MAC				
MAS	2	1	1	Oct.
MUR	75	4	10	Jan., April, May, July, Aug., Sept.,Oct.
MUT	881	2	29	Jan., April, May, July,Oct., Nov.,Dec.
NEP				
PAC	711	5	61	All months except February, March.
PIL	1.511,50	3	104	March, April, May, Sept.,Oct., Nov., Dec.
RPG	34	2	3	July, Aug., Oct.
SBA	485	3	50	Jan,Febr.,March, April, May, Oct., Nov.,Dec.
SBG	4	1	6	Jan, May, Dec.
SBR	18	2	12	May, Dec.
SHR				
SLO	33,65	2	14	June, July, August
SOL	2,5	2	3	January, February.
SSB				
SWA	2	1	1	April
SWO	21	1	2	Sept
WRF				

(b) Data from the national data collection programme

Table 3 below shows discard estimates for important commercial species in 2020 based on data extracted from the national fisheries data collection programme. The quality control of the 2021 data is still ongoing.

*Table 3_ DCF data 2020								
Year	Type of exemption	Exemption included in regulation	Data source*	Fishing area	Fishing fleet/metier	Species	Species discarded	Discards** weight (tn)
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	OTB	<i>Engraulis encrasicolus</i>	ANE	0.00
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-20	OTB	<i>Parapenaeus longirostris</i>	DPS	15.57
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-20	OTB	<i>Merluccius</i>	HKE	9.51
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	OTB	<i>Scomber scombrus</i>	MAC	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	OTB	<i>Scomber colias</i>	MAS	0.07
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-20	OTB	<i>Mullus surmuletus</i>	MUR	0.00
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-20	OTB	<i>Mullus barbatus</i>	MUT	2.10
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	OTB	<i>Nephrops norvegicus</i>	NEP	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	OTB	<i>Pagellus erythrinus</i>	PAC	12.09
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	OTB	<i>Sardina pilchardus</i>	PIL	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	OTB	<i>Pagrus pagrus</i>	RPG	0.09
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	OTB	<i>Pagellus acarne</i>	SBA	2.65

2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	OTB	<i>Sparus aurata</i>	SBG	0.36
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	OTB	<i>Pagellus bogaraveo</i>	SBR	6.46
2020	<i>De minimis</i>	2018/161	at-sea monitoring programme / logbooks	GSA-20	PS	<i>Engraulis encrasicolus</i>	ANE	3.08
2020	<i>De minimis</i>	2018/161	at-sea monitoring programme / logbooks	GSA-20	PS	<i>Scomber colias</i>	MAS	6.16
2020	<i>De minimis</i>	2018/161	at-sea monitoring programme / logbooks	GSA-20	PS	<i>Sardina pilchardus</i>	PIL	43.29
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Engraulis encrasicolus</i>	ANE	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Diplodus annularis</i>	ANN	2.03
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Diplodus vulgaris</i>	CTB	0.12
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Parapenaeus longirostris</i>	DPS	58.62
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Merluccius</i>	HKE	187.08
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Scomber scombrus</i>	MAC	4.57
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Scomber colias</i>	MAS	2.94
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Mullus surmuletus</i>	MUR	1.37
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Mullus barbatus</i>	MUT	3.66
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Nephrops norvegicus</i>	NEP	3.37

2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Pagellus erythrinus</i>	PAC	44.93
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Sardina pilchardus</i>	PIL	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Pagrus pagrus</i>	RPG	0.40
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Pagellus acarne</i>	SBA	3.41
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Sparus aurata</i>	SBG	0.07
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Pagellus bogaraveo</i>	SBR	14.65
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	OTB	<i>Solea solea</i>	SOL	0.68
2020	<i>De minimis</i>	2018/161	at-sea monitoring programme / logbooks	GSA-22	PS	<i>Engraulis encrasicolus</i>	ANE	18.37
2020	<i>De minimis</i>	2018/161	at-sea monitoring programme / logbooks	GSA-22	PS	<i>Scomber scombrus</i>	MAC	0.10
2020	<i>De minimis</i>	2018/161	at-sea monitoring programme / logbooks	GSA-22	PS	<i>Scomber colias</i>	MAS	2.69
2020	<i>De minimis</i>	2018/161	at-sea monitoring programme / logbooks	GSA-22	PS	<i>Sardina pilchardus</i>	PIL	90.78
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	OTB	<i>Engraulis encrasicolus</i>	ANE	0.00
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-23	OTB	<i>Parapenaeus longirostris</i>	DPS	0.05
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-23	OTB	<i>Merluccius merluccius</i>	HKE	5.68
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	OTB	<i>Pagellus erythrinus</i>	PAC	0.82

2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-23	OTB	<i>Mullus surmuletus</i>	MUR	0.00
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-23	OTB	<i>Mullus barbatus</i>	MUT	0.49
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	OTB	<i>Sardina pilchardus</i>	PIL	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	OTB	<i>Pagrus pagrus</i>	RPG	0.06
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	OTB	<i>Pagellus acarne</i>	SBA	0.33
2020	<i>De minimis</i>	2018/161	at-sea monitoring programme / logbooks	GSA-23	PS	<i>Scomber colias</i>	MAS	0.00
2020	<i>De minimis</i>	2018/161	at-sea monitoring programme / logbooks	GSA-23	PS	<i>Sardina pilchardus</i>	PIL	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	GNS	<i>Diplodus annularis</i>	ANN	1.74
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-20	GNS	<i>Merluccius merluccius</i>	HKE	1.43
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-20	GNS	<i>Mullus barbatus</i>	MUT	0.10
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	GNS	<i>Pagellus acarne</i>	SBA	0.14
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	GNS	<i>Pagellus bogaraveo</i>	SBR	0.18
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	GNS	<i>Pagellus erythrinus</i>	PAC	0.22
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	GNS	<i>Sparus aurata</i>	SBG	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	GTR	<i>Diplodus annularis</i>	ANN	235.64

2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	GTR	<i>Diplodus sargus</i>	SWA	5.09
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	GTR	<i>Diplodus vulgaris</i>	CTB	0.99
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-20	GTR	<i>Mullus barbatus</i>	MUT	2.97
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-20	GTR	<i>Mullus surmuletus</i>	MUR	2.04
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	GTR	<i>Pagellus acarne</i>	SBA	1.36
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	GTR	<i>Pagellus bogaraveo</i>	SBR	9.64
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	GTR	<i>Pagellus erythrinus</i>	PAC	5.58
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	GTR	<i>Pagrus pagrus</i>	RPG	0.15
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	GTR	<i>Solea solea</i>	SOL	0.46
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	GTR	<i>Sparus aurata</i>	SBG	5.33
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	LLS	<i>Diplodus annularis</i>	ANN	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	LLS	<i>Merluccius merluccius</i>	HKE	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	LLS	<i>Diplodus sargus</i>	SWA	0.21
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-20	LLS	<i>Pagrus pagrus</i>	RPG	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GNS	<i>Diplodus annularis</i>	ANN	32.83

2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GNS	<i>Diplodus vulgaris</i>	CTB	0.71
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-22	GNS	<i>Merluccius merluccius</i>	HKE	1.78
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-22	GNS	<i>Mullus barbatus</i>	MUT	1.19
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-22	GNS	<i>Mullus surmuletus</i>	MUR	0.14
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GNS	<i>Pagellus acarne</i>	SBA	17.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GNS	<i>Pagellus bogaraveo</i>	SBR	2.40
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GNS	<i>Pagellus erythrinus</i>	PAC	3.84
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GNS	<i>Pagrus pagrus</i>	RPG	0.19
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GNS	<i>Sparus aurata</i>	SBG	0.01
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GTR	<i>Diplodus annularis</i>	ANN	23.37
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GTR	<i>Diplodus puntazzo</i>	SHR	0.02
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GTR	<i>Diplodus sargus</i>	SWA	0.29
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GTR	<i>Diplodus vulgaris</i>	CTB	2.68
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-22	GTR	<i>Merluccius merluccius</i>	HKE	0.26
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-22	GTR	<i>Mullus barbatus</i>	MUT	1.35

2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-22	GTR	<i>Mullus surmuletus</i>	MUR	1.38
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GTR	<i>Pagellus acarne</i>	SBA	19.52
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GTR	<i>Pagellus bogaraveo</i>	SBR	0.03
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GTR	<i>Pagellus erythrinus</i>	PAC	7.20
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GTR	<i>Pagrus pagrus</i>	RPG	4.19
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GTR	<i>Solea solea</i>	SOL	0.17
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	GTR	<i>Sparus aurata</i>	SBG	0.30
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	LLS	<i>Diplodus annularis</i>	ANN	0.56
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	LLS	<i>Merluccius merluccius</i>	HKE	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	LLS	<i>Diplodus sargus</i>	SWA	0.19
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	LLS	<i>Diplodus vulgaris</i>	CTB	1.17
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	LLS	<i>Mullus surmuletus</i>	MUR	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	LLS	<i>Pagellus acarne</i>	SBA	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	LLS	<i>Pagellus erythrinus</i>	PAC	15.69
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	LLS	<i>Pagrus pagrus</i>	RPG	6.87

2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-22	LLS	<i>Sparus aurata</i>	SBG	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	GNS	<i>Diplodus vulgaris</i>	CTB	0.10
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	GTR	<i>Diplodus annularis</i>	ANN	11.16
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	GTR	<i>Diplodus sargus</i>	SWA	0.33
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	GTR	<i>Diplodus vulgaris</i>	CTB	0.88
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-23	GTR	<i>Merluccius merluccius</i>	HKE	0.00
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-23	GTR	<i>Mullus barbatus</i>	MUT	0.25
2020	<i>De minimis</i>	2018/2036	at-sea monitoring programme / logbooks	GSA-23	GTR	<i>Mullus surmuletus</i>	MUR	1.01
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	GTR	<i>Pagellus acarne</i>	SBA	0.02
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	GTR	<i>Pagellus erythrinus</i>	PAC	1.19
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	GTR	<i>Pagrus pagrus</i>	RPG	7.15
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	LLS	<i>Diplodus sargus</i>	SWA	0.01
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	LLS	<i>Diplodus vulgaris</i>	CTB	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	LLS	<i>Merluccius merluccius</i>	HKE	0.00
2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	LLS	<i>Pagellus erythrinus</i>	PAC	0.23

2020	<i>De minimis</i>	2020/4	at-sea monitoring programme / logbooks	GSA-23	LLS	<i>Pagrus pagrus</i>	RPG	0.08
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*The values in this table are estimated results of reductions. The discard ratios resulting from sampling of the national DCF program were used. The total catch was calculated according to the formula: Total catch = landings / (1-discard ratio)

**Discards for any reason: not valuable, destroyed, crushed, no commercial interest/value, undersized, etc.

IV. The derogations in place minimise the socio-economic impact of the landing obligation as well as the impact on the security of Greek-registered vessels (in terms of separate stowage and storage of undersized fish; extra staff to manage it, etc.).

As regards port infrastructure and the gears used by the vessels, catches by purse seiners, trawlers and surface longliners are landed in designated ports, as provided for by Article 22 of Regulation (EC) No 1967/2006, with the exception of the quantities which, by way of derogation, may be discarded. The same applies to catches of bluefin tuna (Article 30 of Regulation (EU) 2016/1627) and swordfish (paragraph 31 of Recommendation 16-05 and Article 23 of Regulation (EU) 2019/1154), with the exception of discards.

Undersized bluefin tuna, from 8-30 kg in weight or 75-115 cm in length, and swordfish of less than 11.4 kg or 100 cm, may be sold provided that the requirements laid down in Regulation (EU) 2016/1627, as amended, for bluefin tuna, and in Recommendation 16-05 and Regulation (EU) 2019/1154 for swordfish are met.

To prevent the landing of undersized fish, port authorities carry out regular and spot checks both at points of landing and at auction halls in connection with first sales as required by EU legislation. In **2021** these checks uncovered **115 infringements**, of which **49 at auctions** (1 794 checks carried out) and **66 during transport** (815 checks carried out).

In addition, **6 907 fisheries inspections** were carried out on professional fishing vessels, of which **1 971 at sea**. The above information has been published on the official website of the Fisheries Control Directorate of the Ministry of Shipping and Island Policy: [statistika_2021.pdf \(hcg.gr\)](#)

CHECKS ON TRADE / DISTRIBUTION OF CATCHES (CHECKS FOR UNDERSIZED CATCHES) AND FISHING INSPECTIONS						
CHECKS FOR UNDERSIZED CATCHES				FISHERY INSPECTIONS		
CHECKS (FISH AUCTIONS)	INFRINGEMENTS (FISH AUCTIONS)	CHECKS (DURING TRANSPORT)	INFRINGEMENTS (DURING TRANSPORT)	PROFESSIONAL VESSELS	RECREATIONAL VESSELS	OTHER INSPECTIONS
1 794	49	815	66	6 907 (1 971 AT SEA)	6 084 (4 558 AT SEA)	1 171

In total, 23 infringements were established for undersized fish. By fishing category, none of these concerned trawlers or purse seiners, 10 concerned shellfish vessels, 2 swordfish vessels and 11 other types of vessel.

Annex IX to Regulation (EU) 2019/1241, the minimum mesh size for static nets is 16 mm. In Greece this mesh size can be used only to fish big-scale sand smelt (*Atherina boyeri*), with nets measuring no more than 220 m in width and 400 mesh holes in height. Vessels are also banned from carrying other gear and fishing other aquatic organisms on the same fishing trip (Article 2 of Presidential Decree 174/2013).

All this is effective in helping to prevent catches of juvenile aquatic organisms.

VI. Fishers are well informed and act responsibly. This is clear from the fact that they use various means to avoid catching undersized individuals, including:

- refraining from fishing in areas where they encounter small individuals, often alerting fellow fishers so they can also avoid those areas;
- using more selective gear (e.g. traps and nets with a mesh opening of 50 mm, which is larger than the minimum permitted);
- using, if they can afford it, expensive technological equipment that helps them identify not only the species but also the size of the fish. As this contributes to sustainable stock management, there is good reason to seriously explore the possibility of financing the purchase and installation of such equipment on all vessels fishing with dynamic gear.

3. REDUCTION IN FISHING CAPACITY

In recent years the overall number of Greek fishing vessels has dropped significantly, and this downward trend is continuing.

Until recently, the withdrawal of vessels with financial support under Council Regulation (EC) No 1198/2006 was the main reason for the reduction of the Greek fleet in terms of the number of vessels.

In 2017, in line with the action plan submitted together with the 2016 fleet report, a significant number of vessels was selected for scrapping under the 'permanent cessation of fishing activities' measure provided for in the 2014-2020 fisheries and maritime operational programme. The actual scrapping mainly took place in 2018 but continued in 2019.

No scrapping was carried out in 2021.

Between **1 January 2003** and **31 December 2021** the Greek fishing fleet was reduced by a total of **3 336 vessels (17.58%)** through the permanent cessation of fishing activity (**DES**), with or without financial assistance. As a result, fishing capacity fell by **31.28%** in gross tonnage (GT) and **28.34%** in engine power (kW).

In its management of fishing fleet capacity, Greece ensures, as required by the common fisheries policy, that its fishing vessels do not exceed the reference levels for engine power (kW) and tonnage (GT).

Moreover, Greece has been making considerable efforts in recent years to reduce the number of vessels as part of an overall restructuring of the fishing fleet.

Note that in order to complete the restructuring of its fleet, Greece reserves the right to make use of the capacity available to it, based on the reference levels for the Greek fishing fleet and without exceeding the ceilings set by Annex II to Regulation (EU) No 1380/2013.

Any new fishing capacity added to the fleet without financial support is always accompanied by the mandatory withdrawal of corresponding capacity without financial support.

4. COMPLIANCE WITH THE ENTRY-EXIT REGIME AND REFERENCE LEVELS

To assess compliance with the entry-exit regime provided for in Article 23 of Regulation (EC) No 1380/2013, we provide tables showing the calculation of the baseline for the regime and reference levels as at **31 December 2021**, based on the most recent update of the national register of fishing vessels kept by the Fisheries Control Directorate of the Ministry of Shipping and Island Policy.

A. Calculation of the 1 January 2003 baseline (GT₀₃ and kW₀₃)

GT _{FR} (1-1-2003)	GT ₁	GT ₂	GT ₃	GT ₄	GT ₀₃
101 401	0	0	4 526	0	105 927

kW _{FR} (1-1-2003)	KW ₁	KW ₂	KW ₃	KW ₄	KW ₀₃
588 554	0	0	1 234	0	589 788

B. Management of entries/exits, as at 31 December 2021

		GT		kW	
1	Fishing capacity as at 1.1.2003	GT _{FR}	101 401	kW _{FR}	588 554
2	Fishing capacity under the entry-exit regime	GT ₀₃	105 927	KW ₀₃	589 788
3	Entry of vessels of over 100 GT with public support	GT ₁₀₀	0	kW ₁₀₀	0
4	Other entries or capacity increase (not included in 3 or 5)		12		85
5	Increase in GT tonnage for safety reasons	GT ₅	13		
6	TOTAL ENTRIES (3+4+5)		25		85
7	Exit with public support before 1.1.2007	*GT _{a1}	11 339	kW _{a1}	60 827
8	Exits with public support after 1.1.2007	*GT _{a2}	19 897	kW _{a2}	104 026
9	Other exits (after 1.1.2003 not included in 7 or 8)		3 065		28 186
10	TOTAL EXITS (7+8+9)		34 301		193 039

11	Engine power replaced with public support subject to a reduction in power			kWr	0
12	Fleet fishing capacity as at 31.12.2021 (1+6-10)	GTt	67 125	kWt	395 600
13	Upper limit (ceiling) as at 31.12.2019		75 614		424 935

Rows 1, 3, 4, 5, 7, 8, 9, 11, 12: data from the national register of fishing vessels

Row 13: GT ceiling = 2-35%3+5-99%7-96%8 and kW ceiling = 2-35%3-7-8-20%11

According to the above table, the Greek fleet has **available fishing capacity** equivalent to **8 489 GT** and **29 335 kW**, based on the difference between the capacity ceiling and fishing capacity as at 31 December 2021.

C. Reference levels as at 31 December 2021

		GT		kW	
1	Reference levels as at 1.1.2003	R(GT) ₀₃	119 910	R(kW) ₀₃	653 497
2	Entry of vessels of over 100 GT with public support	GT ₁₀₀	0	KW ₁₀₀	0
3	Tonnage increase in GT for safety reasons	GTs	13		
4	Exit with public support up to 31.12.2006	GTa ₁	11 339	KWa ₁	60 827
5	Exit with public support after 1.1.2007	GTa ₂	19 897	KWa ₂	104 026
6	Engine power replaced			KWr	0
7	Fleet fishing capacity as at 31.12.2021	GTt	67 125	kWt	395 600
8	Reference levels as at 31 December 2021	R(GT)t	89 597	R(kW)t	488 644

Situation according to the data in the national register of fishing vessels

Row 8: R(GT)t=1-35%2+3-99%4-96%5 and R(kW)t=1-35%2-4-5-20%6

The above table shows that the Greek fishing fleet was **in compliance** with the reference levels as at 31 December 2021.

It is also clear from the table that the fishing capacity of the Greek fleet **does not exceed** the maximum fishing capacity ceilings (84 123 GT and 469 061 kW) laid down in Annex II to Regulation (EU) No 1380/2013.

5. FLEET MANAGEMENT SYSTEM

Despite a significant drop in the number of vessels in recent years, the Greek fishing fleet remains the largest in the EU in terms of numbers. It is mainly made up of small coastal vessels that mostly fish with selective gear, although the gear varies significantly depending on time and location.

Inspecting the fishing activity of coastal vessels is particularly challenging and costly, as vessels are spread widely across the country's coastal and island regions.

To ensure compliance with the requirements of the common fisheries policy and the current provisions on the control of fishing activities (Council Regulation (EC) No 1224/2009), the organisational structure of fisheries inspection is constantly adjusted to modernise the national penalty system and improve and/or extend the use of new technologies.

The action plan on inspections launched in 2011 focuses on the following priority areas:

- modernising the structure and organisation of inspection authorities and improving their coordination; participation of fishery authorities in inspections, especially in markets, and therefore increasing the number of inspectors and means of inspection (patrol vessels); providing information and training to inspectors;
- updating fishery legislation;
- using IT and modern technology systems to ensure the completeness and reliability of data on vessel fishing activities, inspections, the point system, exchange of data with other Member States and its use in real time, improving the monitoring and control system for tuna catches and implementing the monitoring and control system for swordfish catches;
- financing actions, systems, means, operators' equipment and training of inspectors;
- designing and implementing control programmes as regards tuna and swordfish, fishing activities and marketing, and performing administrative checks on the import and re-export of fishery products from and to third countries.

6. ADAPTING ADMINISTRATIVE FLEET MANAGEMENT PROCEDURES

The organisational structure and responsibilities of the single control authority and the fisheries inspection authorities within this Ministry and the Ministry of Shipping and Island Policy have been gradually improved as from 2015 but mainly from 2017.

This has involved an upgrade of the fisheries monitoring centre; full operation of the integrated fisheries monitoring system (OSPA), a system for the electronic recording and monitoring of fishing activity and marketing data which is constantly being extended and upgraded; drawing up rules and/or bringing them into line with EU provisions on marketing control and setting up a points system; electronic recording and monitoring of tuna catches;

and providing users at inspection authorities and other institutions with information and training on new systems.

The following were also implemented:

- a programme of inspection and control of fishing activity and fishery products at sea, in port, at fish landing and trading ports and in auction halls across Greece. Where infringements were found, penalties were imposed as provided for in each case, such as fines, suspension of the vessel's and master's fishing licence for a certain number of days and confiscation of products;
- a special control and inspection programme for tuna and participation in the joint deployment programme coordinated by the European Fisheries Control Agency (EFCA), including checks and inspections on the fishing activities of fishing vessels and other economic operators and joint inspection and monitoring activities;
- to implement all of the above, fisheries inspectors at port bodies and marine biologists in the central administration and the regions were trained, patrol vessels and planes were procured along with other inspection equipment, and a sufficient number of inspectors were put in charge of the monitoring, control and surveillance of fishing activities.

Other measures taken:

- administrative checks on the import, export and re-export of fishery products to and from third countries;
- drawing up rules and/or bringing them into line with EU provisions to ensure the reporting of data on the fishing activity of vessels in length classes < 10 m and 10-12 m;
- drawing up rules and/or bringing them into line with EU provisions to ensure the reliable weighing of fishery products, the submission of landing, take-over and first-sale declarations and the registration of all buyers of first-sale fish in the relevant register;
- regulation and administrative action to deal with pending appeals relating to fishing.

Improving the management system

To improve the management of the fishing fleet – apart from setting up and operating an effective and reliable management system, which has largely been achieved – continuous recording of data is necessary to be able to design management measures that respond to actual needs.

In the past, failure to implement the fisheries data collection programme led to data gaps and the use of estimates. Over the past years these gaps have been increasingly filled and the time series required for full scientific documentation are gradually being reached. The situation is constantly improving.

Note that the latest available information, from a 2020 survey collecting socio-economic data, was used to calculate the financial results and economic indicators presented in the analysis below.

Under Commission Decision 2010/93/EU and the national fisheries data collection programme, data on the value of landings (weight and price of catches) and the fishing effort (days at sea) must be collected on a monthly basis using the transversal variables methodology.

Data on the value of landings based on the socio-economic questionnaire cannot be used in these reports as it is not collected in line with the transversal variables methodology.

CHAPTER II

SOCIO-ECONOMIC DATA CONCERNING THE SEA FISHING INDUSTRY

This report presents the most recent data available, based on the **2021** report of the national fisheries data collection programme combined with an analysis of data from previous years.

A considerable part of the data presented below was also used in the last year's report in the form of provisional data still being processed, as it had not been fully processed at the time the report was drawn up.

The economic indicators for the Greek sea fishing fleet presented below, calculated on the basis of economic data collected under the national programme for the collection, management and use of fisheries data, **pertain to 2020**.

The socio-economic data collected mainly concerns fishing vessel expenditure, in particular on energy (cost of fuel) and labour costs. Labour costs are made up of crew salaries and wages and the imputed value of unpaid labour carried out on board by the vessel's owner(s).

Other socio-economic data such as repair and maintenance costs, variable costs other than fuel and labour costs (such as expenses for food and bait, marketing costs, etc.), non-variable costs (accountant fees, vessel insurance costs, etc.) and annual depreciation is also covered.

General comments on the methodology used in the report

The fleet segments are based on Table 8 of Regulation (EU) 2021/1167 (which corresponds to Table 5B of earlier regulations).

The table presents fleet segments with a very small number of vessels (<10) grouped together with the size category immediately below or above it, as appropriate.

The procedure is described (inter alia) in Text Box 5.2: 'Economic and social variables for fisheries data collection' in the new work plan (see https://datacollection.jrc.ec.europa.eu/documents/10213/1430907/Greece_WP_+2022-2024_text.pdf/9b44b6ea-69db-4a15-a411-85c57885b595?version=1.0&download=true) (the guidelines provided to the Member States on the correct clustering method, on which it is based, can also be found here).

Accordingly, no economic indicators were calculated for fleet segments consisting of very few vessels, as these have been grouped together with vessels in similar segments. **The grey cells thus give the false impression that no calculation was made for those segments.**

Lastly it should be noted that segments DTS0612 and DTS1218 (demersal trawlers and/or demersal seiners) use only winch trawls (SB), not bottom otter trawls (OTB). Conversely, segments DTS1824 and DTS2440 use only bottom otter trawls (OTB). It is necessary to point this out as the same code covers both winch trawls (SB) and bottom otter trawls (OTB) in Table 8 (ex 5B) of Regulation (EU) 2021/1167 and successive regulations.

In short, the procedure used to classify the fleet is based on the relevant regulations and on an effort to harmonise the sampling of socio-economic data and activity data (the former transversal variables have been replaced with variables linked to activity).

Capacity balance indicators (economic, vessel use, inactive)

This section presents information on balance indicators as set out in the table in the chapter on Greece in STECF-21-16

Inactive fleet indicator

There is a negative (red) trend as regards inactivity for some fleet segments, but only for the period from 2015 to 2019. This trend is expected to end in the coming years as the vessel register is gradually brought up to date.

Vessel use

There are two indicators, which are calculated for each segment of the fleet based on the ratio:

$$\frac{\text{average number of days at sea}}{\text{maximum number of days at sea}}$$

For the VUR₂₂₀ indicator the maximum number of days has been set horizontally at 220 days. For the VUR indicator the number of days has been estimated as shown below:

FISHING_TECH	VESSEL_LENGTH	VALUE
DFN	VL0006	275
DFN	VL0612	305
DFN	VL1218	305
DRB	VL0612	305
DTS	VL0612	150
DTS	VL1218	150
DTS	VL1824	207
DTS	VL2440	207
FPO	VL0006	275
FPO	VL0612	305
HOK	VL0006	275
HOK	VL0612	305
HOK	VL1218	305
PS	VL1218	167
PS	VL1824	167
PS	VL2440	167

There are various ways to estimate the number of days at sea, essentially based on:

- (a) the average days at sea of the three vessels with the greatest fishing effort;
- (b) subtracting from 365 the days on which vessels cannot go out to sea (e.g. due to maintenance or repairs, high winds or a ban laid down by law).

The results are roughly the same irrespective of the method used, as shown by the fishing effort data.

Some coastal fishing vessels do indeed declare a very high number of days at sea (> 300 days). These could be vessels that fish near the coast in gulfs sheltered from the wind, meaning that they are not particularly affected by the weather.

The maximum number of fishing days could be partially reduced in the coming years (which would be fully justified based on the literature and expert advice). However, as can be seen from the table, even with the maximum number of days set at 220 (which is difficult to justify), two segments of the fleet have changed colour from red to green (DFNB0612 and FPO0612).

In our view there is therefore not much scope for improving this indicator.

What is important to note, however, is that the indicator is not particularly useful, and in the case of Greece not very pertinent, for two main reasons:

(a) The Greek coastline is very particular and heterogeneous in nature

It is not meaningful to set a maximum number of fishing days that is common to all ports across the Greek mainland and islands;

(b) Many fishers have several occupations

To make ends meet, a household often carries out not just one, but several activities (such as fishing, agriculture and tourism, for example). This means that many fishers, especially in coastal fishing, often choose not to go out to sea, as they alternate fishing with more profitable seasonal activities. This is a typical feature of rural Greece and a basic strategy for households to make ends meet.

Economic indicators

The economic balance indicators are green for the most 'business-oriented' fleet segments (trawlers and purse seiners). The indicators are red for many segments made up of coastal vessels.

However, as in the case of the 'vessel use' indicator, the economic indicators are not very relevant either when it comes to measuring the viability of the coastal fleet. This is because:

(a) the 'imputed value of unpaid labour', i.e. work put in by the vessel owner and, where applicable, members of their family, is taken into account as an expense. In reality, however, this activity contributes to the family's income. As self-employed people often say: 'I work to get by, not for profit'. This circumstance is not taken into account by the most stringent, technocratic financial indicators, which treat fishers in the same way as large and very large enterprises;

(b) in particular, the numerator in the RoFTA and NP/CR indicators is net profit (where unpaid work is always considered an expense). Accordingly, where a fleet segment has negative net profit (i.e. a net loss), the indicator will turn red without this necessarily

meaning that the fishers and family-run fishing businesses concerned do not earn an income.

In conclusion, while there is not much scope for significantly improving the overall picture painted by the above balance indicators, this should not be taken to mean that there is a problem with the fleet.

Rather, the indicators are not suitable for measuring the viability of the Greek fleet as they fail to take account of the characteristics of coastal fishing, instead taking the entirely technocratic approach of considering fishing businesses like any other type of business activity.

II. ASSESSMENT OF THE FISHERIES SECTOR

A. Assessment of the fisheries sector

A.1: Economic and cross-cutting variables

A.1.a: Socio-economic data on the sea fisheries sector²³

A.1.a.1. Introduction

Collection of economic variables

Socio-economic data on the sea fishing sector for the 2020 reference year was collected in the context of the 2020-2021 national fisheries data collection programme in accordance with the requirements of Regulation (EC) No 1004/2017 and Implementing Decision 2016/1251.

The socio-economic data collected mainly concerns fishing vessel expenditure, in particular on energy (cost of fuel) and labour costs. Labour costs are made up of crew salaries and wages and the imputed value of unpaid labour carried out on board by the vessel's owner(s). Financial results (gross value added, gross profit, net profit) and economic indicators (net profit margin, gross value added / FTE, gross profit margin, etc.) are also calculated.

Data is also collected on repair and maintenance costs, variable costs other than fuel and labour costs (such as expenses for food and bait, marketing costs, etc.), non-variable costs (accountant fees, vessel insurance costs, etc.) and annual depreciation.

Economic data collected under the national programme includes the value of physical capital and investments in physical capital in the reference year (2020). Data is also collected on employment in fisheries (engaged crew and national/harmonised full-time equivalents (FTEs)).

The economic variables were collected using a structured questionnaire based on the following deliverable: 'Instructions for completing the questionnaire and entering socio-economic data on the sea fishing sector in the database, 2020'. The information was collected from a sample of vessels selected using the sampling method set out in the national fisheries data collection programme, as summarised in the following paragraph. Data on the fishing fleet's annual fuel consumption, which is a transversal variable, is also collected by means of the socio-economic questionnaire.

The results of the collection of socio-economic data on sea fishing are presented below, including a description of how businesses in the fishing fleet are structured in terms of how many vessels they own. Data regarding the number of vessels per category, the average total length of vessels (in metres), gross tonnage (GT), total engine power (kW) and the average age of vessels (in years) is also assessed and presented as transversal variables. These variables are calculated on the basis of entries in the register of fishing vessels corresponding to the reference year.

² This chapter was co-authored by the Agricultural Economics Research Institute. Scientific supervisor: Dr Irene Tzouramani; external associates: Dr Angelos Liontakis, Stamatis Mantziaris MBA; participating researcher: Dr Alexandra Sintori.

³ We wish to thank the EPSAD staff at the Fisheries Research Institute/Centre for Marine Research who collected the socio-economic data for their assistance and cooperation and for their comments and notes. We also thank the fishers who participated in the survey for their availability and cooperation with the researchers.

This report also presents data on the revenue of fishing vessels, in particular the gross value of landings and revenue from direct subsidies⁴. The variables (a) 'gross value of landings', (b) 'average value by species caught' and (c) 'days at sea' are transversal variables collected on a monthly basis per fish species. For purse seiners (PS) and trawlers (DTS 1824 and DTS 2440) the information presented is derived from OSPA data, processed with the assistance of industry experts.

In the following paragraphs, socio-economic data on Greece's sea fishing sector is initially presented for the entire fleet. The data is then broken down by small-scale and large-scale fishing and by each stratum of the fishing fleet (based on the vessels' length class and main gear). The conclusions drawn from the analysis of the economic data are set out at the end of the chapter, highlighting the most important issues encountered when the survey was carried out.

Sampling

The fishing vessel register, which in 2020 included 13 952 vessels, was used as a sampling basis to select the sample of vessels from which economic data was collected. The sample was selected by stratified random sampling. The population was stratified by means of two variables: vessel length and main fishing gear.

Table A.1.a.1 shows the stratification of the population based on these variables.

Table A.1.a.1. Sampling basis: Stratification of the fleet according to vessel length and main fishing gear

Main fishing gear	Length	Population
Nets	<6	3 374
Nets	>=6 <12	5 811
Nets	>=12 <18	167
Pots and traps	<6	61
Pots and traps	>=6 <12	314
Longlines	<6	1 411
Longlines	>=6 <12	1 957
Longlines	>=12 <18	102
Dredges	>=6 <12	47
Winch trawl	>=6 <12	185
Winch trawl	>=12 <18	39
Bottom trawl	>=18 <24	101
Bottom trawl	>=24 <40	144
Purse seines	>=12 <18	81
Purse seines	>=18 <24	130
Purse seines	>=24 <40	28
TOTAL		13 952

Table A.1.a.2 shows the number of active vessels in the sample and the number of questionnaires collected per stratum. Note that in most categories the coverage rate in the sample is sufficient for the purposes of the survey.

⁴ Note that data on revenue from the renting of quotas or other fishing rights is also collected under the programme; however, this type of revenue is statistically negligible in Greece.

Table A.1.a.2. Number of vessels in the sample and collected questionnaires by stratum

Main fishing gear	Length	Number of active vessels	Collected questionnaires
Nets	<6	2 531	63
Nets	>=6 <12	5 004	252
Nets	>=12 <18	140	27
Pots and traps	<6	49	7
Pots and traps	>=6 <12	271	25
Longlines	<6	1 059	44
Longlines	>=6 <12	1 697	144
Longlines	>=12 <18	79	34
Dredges	>=6 <12	10	5
Winch trawl	>=6 <12	118	7
Winch trawl	>=12 <18	34	12
Bottom trawl	>=18 <24	85	23
Bottom trawl	>=24 <40	140	29
Purse seines	>=12 <18	62	27
Purse seines	>=18 <24	100	47
Purse seines	>=24 <40	27	13
TOTAL		11 406	759

Implementation of the survey

The data used to assess the economic variables in the sea fishing sector, as set out in the following paragraphs, was collected from a random sample of vessels using a structured socio-economic questionnaire. The sampling process described in the previous paragraph was the first stage of the survey.

This was followed by training of the researchers, with a presentation of the questionnaire and the database in which the data collected through the questionnaires is recorded. The researchers were given the necessary clarifications with respect to collecting socio-economic data and using the database. The researchers were asked to complete a pilot questionnaire as part of their training.

Quality checks and further processing of the socio-economic data took place where this was considered necessary, using the appropriate methodological framework (see the methodology report for more details⁵). The framework also includes the use of specific evaluation indicators⁶. The relevant economic variables were then assessed for the fleet as a whole as well as for its individual segments. Some additional socio-economic indicators were also calculated in the context of this report to help paint a clearer picture of the sea fishing sector and draw conclusions on the sector's viability and importance for the national economy.

A.1.a.2. Structure of the Greek fleet, fishing effort, employment and fishing yield

As can be seen from the data in Table A.1.a.3, in 2020 the fishing vessel register comprised 13 952 vessels with an overall tonnage of 66 254 GT and total engine power of 391 395 kW. The average age of the vessels was 32.7 years. The number of vessels, overall tonnage and total engine power fell slightly compared to both 2019 and 2012, whereas the vessels' average age increased slightly. It is worth noting that in 2018 the number of vessels in the register fell by 751 (to 14 234 vessels), mainly due to the implementation of Measure 6.1.10 'Permanent cessation of fishing activities', under the heading 'Scrapping of fishing vessels', of the 2014-2020 fisheries and maritime operational programme.

⁵ Available at <https://www.agreri.gr/sites/default/files/projects/Methodology%20Report%20version%202.pdf>

⁶ Examples include crew size per stratum, fuel consumption and cost per day at sea, salary per crew member, etc.

In 2020 the Greek fleet comprised 13 554 businesses, the vast majority (around 91%) of which owned only one vessel. The table also shows that in recent years the total number of workers has been in constant decline (with a 32% drop overall since 2012). Note also that the figures in Table A.1.a.3 point to continued underemployment in sea fishing, since the overall number of workers is well above the number of full-time equivalents in this sector (one worker corresponds to 0.77 FTEs).

With regard to fishing effort, the quantity of fuel consumed by the Greek fleet in 2020, based on the data collected, is estimated at 78 927 180 litres in total, a slight decrease (-7%) compared to 2019, whereas the total number of days at sea dropped by 13% to 1 626 561, clearly due to restrictions imposed on fishing activity during the pandemic. In general, there is a long-term downward trend in the number of days at sea.

When the relevant data was collected in 2019, the 'number of days at sea' variable for 2017 was not calculated at national level for all segments of the fishing fleet. The variable was calculated only for trawlers and purse seiners due to the late start of the programme. Note also that in 2014 the variable was based on only 9 months of the year (April-December). Therefore, the historical data for this variable covers the whole year only with respect to 2012, 2013 and 2015, for which data was collected using the socio-economic questionnaire rather than the transversal variables method provided for by Regulation (EU) No 1224/2009.

Energy costs decreased (-22%) in 2020 compared to 2019, confirming the long-term downward trend. The cost of energy relative to catch value shows a similar trend (-2%), whereas energy consumption relative to catch value increased (by 16%). Sales revenue from catches, estimated at €347 707 010, decreased compared to 2019 as a result of restrictions on fishing activity imposed during the pandemic.

Table A.1.a.3. Structure, employment, fishing effort and fishing yield of the Greek sea fishing fleet, 2012-2020

Variable	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change, 2020-19	% change, 2020-12
Number of vessels	16 063	15 954	14 755	15 624	15 182	14 985	14 234	14 075	13 952	-1% ↓	-13%
Number of inactive vessels	1 531	1 202	1 155	1 210	1 535	1 521	1 423	2 538	2 552	0% –	66%
Average age of vessel (years)	26.78	27.61	28.26	29.06	29.43	30.22	32.21	31.90	32.74	3% ↑	22%
Gross tonnage (GT)	76 211	75 566	72 843	74 699	71 751	71 085	67 095	66 805	66 254	-1% ↓	-13%
Total engine power (kW)	455 640	454 565	431 166	446 239	430 793	426 683	398 346	396 003	391 355	-1% ↓	-14%
Number of businesses	13 918	13 871	13 666	12 594	14 207	13 972	12 277	13 090	14 554	11% ↑	5%
Total number of workers	27 559	24 486	23 232	25 407	24 975	22 471	20 923	18 983	18 693	-2% ↓	-32%
FTEs (national full-time equivalents)	23 945	22 546	20 780	23 431	23 040	20 542	18 342	16 109	14 528	-10% ↓	-39%
Average yearly wages per worker	5 967	7 575	6 127	6 274	7 465	7 687	7 872	7 846	7 225	-8% ↓	21%
Average yearly wages per FTE	6 868	8 227	6 850	6 803	8 837	8 738	8 979	9 245	9 296	1% ↑	35%
Days at sea (total)	2 815 808	2 843 714	1 921 836	2 603 840	2 040 825	–	1 832 232	1 863 279	1 626 561	-13% ↓	-42%
Energy costs	109 056 322	108 188 604	92 446 711	84 432 443	75 789 015	69 414 243	70 210 300	64 812 112	50 802 986	-22% ↓	-53%
Energy consumption (litres)	115 096 554	113 673 414	107 319 701	107 015 700	104 897 542	94 118 510	89 208 240	84 786 834	78 927 180	-7% ↓	-31%
Energy cost relative to catch value (€)	0.255	0.259	0.264	0.223	0.163	0.148	0.151	0.149	0.146	-2% ↓	-43%
Energy consumption relative to catch value (€)	0.269	0.272	0.306	0.283	0.226	0.201	0.192	0.195	0.227	16% ↑	-16%
Sales revenue from catches	427 837 048	418 072 659	350 261 580	378 350 308	464 594 132	468 539 588	449 071 380	434 948 427	347 707 010	-20% ↓	-19%

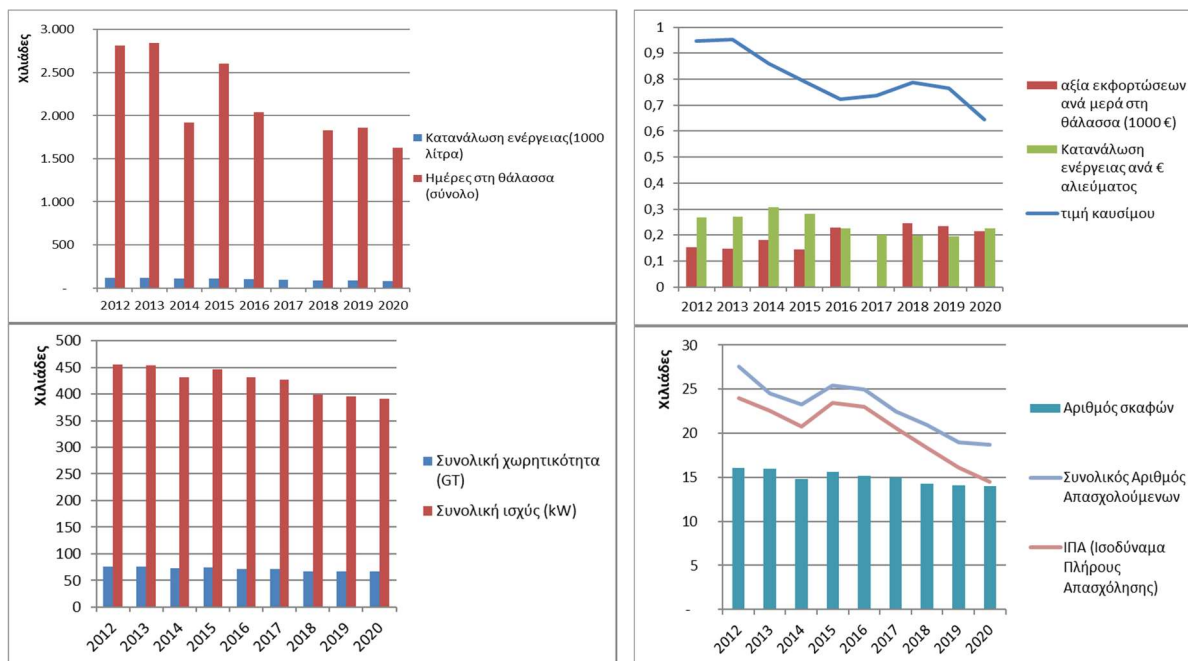


Figure A.1.a.1. Structure, employment, fishing effort and fishing yield of the Greek fleet, 2012-2020

A.1.a.3. Expenditure and financial results

As can be seen from Table A.1.a.4, the sea fishing fleet draws its revenue mainly from the sale of catches. In 2020 direct subsidies accounted for a relatively large portion of total revenue, mainly in the form of support paid out to fishers to alleviate the adverse economic impact of the pandemic, but also, to a lesser extent, in the form of fuel duty refunds in cases where fuel was not purchased directly at a duty-free price. Note that, in accordance with Commission Decision 2010/93/EU, reduced duties on inputs such as fuel are not regarded as direct subsidies, whereas refunds of fuel duties are counted as such.

In 2020 the overall revenue of the Greek fishing fleet amounted to €347 707 010. Table A.1.a.4 shows that fishing vessels achieved a net profit (€58 622 383) for the 5th consecutive year. However, this is a 29% decrease compared to 2019, clearly due to restrictions on fishing activity during the pandemic. The fleet's financial results have thus been on a continuing upward trend since 2013. It is also worth noting that, as in previous years, the revenue that actually reflects fishers' economic situation and living standards (net profit and remuneration of the imputed value of labour) is quite high, although it fell by 11% compared to 2019.

Total fleet expenditure fell by 8% from 2018 to €323 804 401. This confirms a trend that emerged in 2017, when most types of variable expenditure fell significantly compared to 2016 as a result of fishing businesses aiming to reduce the use of inputs as much as possible to improve their liquidity. As can be seen from Table A.1.a.4 and Figure A.1.a.2, the main expenditure items of the Greek fleet are the imputed cost of unpaid labour at around €76 million (23.5% of total expenditure), followed by other variable costs at some €60 million

(18.5%), crew salaries and wages at around €58 million (18%), and, finally, in fourth place, energy costs, which accounted for 15.7% of total expenditure.

Repair and maintenance costs fell considerably (-12%) compared to 2019, whereas there was a small increase in non-variable costs (+6%). The annual depreciation of capital also increased by around 10% to €46 million⁷.

In terms of financial results there was a significant decrease in both gross value added (-12%) and gross profit (-16%). As already mentioned, however, the sea fishing industry achieved a net profit. Invested capital (total depreciated replacement value of physical capital) in the fishing sector increased compared to 2019 to €180 million, whereas total investments in 2019 [*sic*], estimated at €33.6 million, increased notably (by 6%) compared to 2019. The other economic indicators deteriorated compared to 2019 (see Table A.1.a.4).

⁷ This increase is due to a change in the parameters for implementing the perpetual inventory method (PIM) to estimate the depreciation of physical capital, with a view to converging with the other countries participating in the programme.

Table A.1.a.4. Expenditure and financial results in the fishing sector, 2012-2020

Variable		2012	2013	2014	2015	2016	2017	2018	2019	2020	% change 2020-19	% change 2020-12
Revenue	Sales revenue from catches	427 837 048	418 072 659	350 261 580	378 350 308	464 594 132	468 539 588	449 071 380	434 948 427	347 707 010	-20% ↓	2%
	Direct subsidies	0	3 747 195	5 075 829	2 635 936	2 768 528	1 701 601	1 293 410	1 282 190	34 719 774 ⁸	↗	–
Expenditure	Crew wages and salaries	73 367 684	105 420 429	67 278 063	77 354 959	91 281 222	74 123 474	69 205 957	58 742 418	58 473 402	0% –	-20%
	Imputed value of unpaid labour	91 089 486	80 058 019	75 062 991	82 050 233	95 160 109	99 534 130	95 494 252	90 189 037	76 577 896	-15% ↓	-16%
	Energy costs	109 056 322	108 188 604	92 446 711	84 432 443	75 789 015	69 414 243	70 210 300	64 812 112	50 802 986	-22% ↓	-53%
	Repair and maintenance costs	40 144 431	43 168 187	34 308 680	35 636 500	32 995 944	28 269 340	25 112 136	25 559 833	22 423 293	-12% ↓	-44%
	Other variable costs	83 917 813	77 604 070	74 033 627	78 249 174	77 901 956	57 250 926	63 661 874	63 377 769	59 934 260	-5% ↓	-29%
	Non-variable costs	7 749 586	6 747 994	7 139 387	6 482 234	6 476 903	8 331 749	8 031 302	8 664 201	9 209 736	6% ↗	19%
	Annual depreciation	53 514 201	58 675 084	26 844 329	24 206 436	36 283 271	36 492 379	39 961 452	42 030 792	46 382 829	10% ↗	-13%
Financial results	Gross value added	186 968 896	186 110 999	147 409 004	176 185 893	274 198 841	306 974 931	283 349 179	273 816 703	240 056 510	-12% ↓	28%
	Gross profit	22 511 726	632 551	5 067 950	16 780 701	87 757 511	133 317 327	118 648 969	124 885 247	105 005 212	-16% ↓	366%
	Net profit	-31 002 475	-58 042 533	-21 776 379	-7 425 735	51 474 240	96 824 948	78 687 518	82 854 455	58 622 383	-29% ↓	–
	Profit and remuneration for imputed value of labour	60 087 011	22 015 486	53 286 612	74 624 498	146 634 349	196 359 078	174 181 770	173 043 493	135 200 279	-22% ↓	125%
Capital value	Depreciated replacement value of physical capital (€)	226 071 892	242 619 052	113 968 237	99 787 479	151 622 928	160 303 189	153 732 751	160 064 530	179 609 522	12% ↗	-21%
	Value of investments (€)	30 207 167	24 111 423	26 140 333	27 767 435	25 718 634	30 387 903	27 008 253	31 623 546	33 600 494	6% ↗	11%
	Financial position (%)	2.92	1.54	0.55	0.37	0.50	1.35	–	–	–	–	–
Economic indicators	Net profit margin (%)	-7.25	-13.76	-6.13	-1.95	11.01	20.59	17.47	18.99	15.33	-19% ↓	–
	RoFTA (%)	-13.71	-23.92	-19.11	-7.44	33.95	60.40	51.18	51.76	32.64	-37% ↓	–
	Gross value added / FTE	7 808	8 255	7 094	7 519	11 901	14 944	15 448	16 998	16 524	-3% ↓	112%
	Gross profit margin (%)	5.26	0.15	1.43	4.40	18.78	28.35	26.35	28.63	27.46	-4% ↓	422%
	Gross value added / revenue	0.44	0.44	0.41	0.46	0.59	0.65	0.63	0.63	0.63	0% –	44%
	Net profit margin and remuneration for imputed value of labour (%)	14.04	5.22	15.00	19.59	31.37	41.76	38.68	39.67	35.35	-11% ↓	152%

⁸ Direct subsidies include aid paid out to fishers in response to the pandemic (COVID-19).

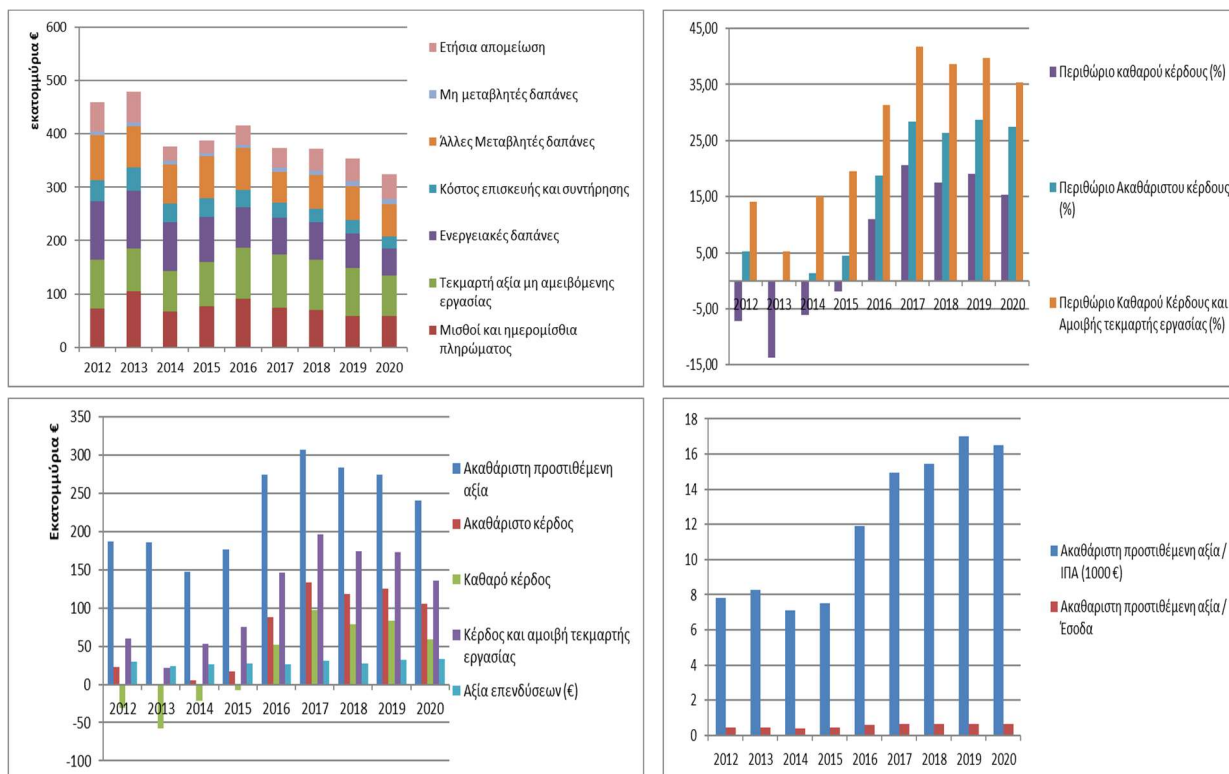


Figure A.1.a.2. Revenue, expenditure and financial results of the Greek fishing fleet, 2012-2020

A.1.a.4. Structure of and financial data on small-scale and large-scale fishing in Greece

Tables A.1.a.5 and A.1.a.6 sum up data on the structure, fishing effort, employment and yield of small-scale and large-scale fishing in Greece, respectively⁹. As can be seen from the tables, 94% of all the vessels in the fleet engage in small-scale fishing. The tables also show that the number of vessels declined over the past year in both coastal and mid-distance fishing.

Vessels engaged in small-scale fishing are older on average, and their gross tonnage and engine power fell even more in relation to the number of vessels. One reason for this could be that the coastal vessels that were withdrawn had above-average tonnage and engine power for their category. Such vessels also had a greater economic incentive to participate in the permanent cessation measure. By contrast, despite a decline in numbers, the tonnage of mid-distance vessels remained stable and engine power fell only slightly.

The total number of workers fell in both small-scale fishing and mid-distance fishing. It is worth noting that underemployment increased in small-scale fishing but fell in mid-distance fishing. Finally, average wages per worker and per FTE increased marginally compared to 2019 in both small-scale and mid-distance fishing.

The breakdown of expenditure is similar to that of the previous year in both small-scale and mid-distance fishing. Accordingly, the main expenditure item for small-scale fishing is the imputed value of unpaid labour (35%), followed by wage costs (15%), energy costs (14%) and

⁹ Small-scale fishing involves vessels less than 12 m in length. Large-scale fishing involves vessels with a length of 12 m and above (mid-distance fishing).

other variable costs (14%). In large-scale fishing other variable costs (mainly marketing costs) are the main expenditure item at 27%, followed by crew salaries and wages (23%), annual depreciation of capital (19%) and energy costs (18%). Lastly, sales revenue fell in both coastal fishing (-28%) and mid-distance fishing (-11%).

Table A.1.a.5. Structure of the small-scale Greek fishing fleet (2012-2020), fishing effort, employment and fishing yield

Variable	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change, 2020-19	% change, 2020-12	
Number of vessels	15 139	15 038	13 850	14 708	14 319	14 126	13 446	13 290	13 160	-1%	↓	-13%
Number of inactive vessels	1 488	1 159	1 088	1 141	1 447	1 425	1 384	2 442	2 426	-1%	↓	63%
Average age of vessel (years)	27	28	28	29	30	31	32	32	33	3%	↑	22%
Gross tonnage (GT)	30 138	29 897	27 613	29 406	29 061	28 714	26 329	26 500	26 071	-2%	↓	-13%
Total engine power (kW)	287 564	285 456	265 919	280 366	274 826	272 248	249 399	246 882	243 736	-1%	↓	-15%
Total number of workers	22 529	19 708	18 222	20 420	19 613	18 132	16 435	14 644	14 729	1%	↑	-35%
FTEs (national full-time equivalents)	19 724	17 885	15 782	18 490	17 799	16 213	15 161	12 903	11 688	-9%	↓	-41%
Average yearly wages per worker	5 744	7 599	6 260	6 218	6 568	7 155	7 580	7 622	6 901	-9%	↓	20%
Average yearly wages per FTE	5 029	6 896	5 421	5 630	7 237	8 002	8 216	8 650	8 697	1%	↑	73%
Days at sea (total)	-	-	1 921 836	2 603 840	1 928 836	-	1 708 859	1 414 726	1 523 442	8%	↑	-
Energy costs	57 557 178	60 246 282	52 567 939	49 009 374	45 345 077	37 325 894	38 519 066	36 626 634	29 109 316	-21%	↓	-49%
Energy consumption (litres)	50 283 598	48 705 410	45 752 146	47 823 940	45 029 099	35 702 516	33 607 780	31 918 196	30 006 304	-6%	↓	-40%
Energy cost relative to catch value (€)	0.244	0.259	0.259	0.220	0.192	0.169	0.178	0.167	0.186	11%	↑	-24%
Energy consumption relative to catch value (€)	0.213	0.210	0.226	0.215	0.191	0.162	0.156	0.146	0.192	31%	↑	-10%
Sales revenue from catches	235 877 167	232 288 624	202 868 115	222 546 553	236 329 149	220 743 073	216 126 619	218 782 079	156 487 909	-28%	↓	-34%

Table A.1.a.6. Structure of the mid-distance Greek fishing fleet (2012-2020), fishing effort, employment and fishing yield

Variable	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change, 2020-19	% change, 2020-12	
Number of vessels	924	916	905	916	863	859	788	785	792	1%	-	-14%
Number of inactive vessels	43	43	67	69	88	96	43	96	126	31%	↑	193%
Average age of vessel (years)	24	25	26	27	28	29	30	30	31	4%	↑	29%
Gross tonnage (GT)	46 072	45 669	45 231	45 292	42 690	42 371	42 417	40 305	40 183	0%	-	-13%
Total engine power (kW)	168 076	169 109	165 246	165 873	155 966	154 435	148 946	149 121	147 619	-1%	↓	-12%
Total number of workers	5 031	4 778	5 010	4 987	5 362	4 339	4 488	4 339	3 964	-9%	↓	-21%
FTEs (national full-time equivalents)	4 221	4 661	4 998	4 941	5 241	4 329	3 181	3 206	2 840	-11%	↓	-33%
Average yearly wages per worker	12 119	10 635	8 714	8 992	10 746	9 391	8 941	8 600	8 426	-2%	↓	-30%
Average yearly wages per FTE	12 119	10 635	8 714	8 992	10 991	9 413	12 614	11 640	11 761	1%	↑	-3%
Days at sea (total)	-	-	93 699	160 423	111 989	-	123 373	100 242	103 119	3%	↑	-
Energy costs	51 499 144	47 942 322	39 878 772	35 423 069	30 443 938	30 785 345	31 691 234	28 185 478	21 693 670	-23%	↓	-58%
Energy consumption (litres)	64 812 957	64 968 004	61 567 555	59 191 759	59 868 443	57 455 359	55 600 459	52 868 638	48 920 875	-7%	↓	-25%
Energy cost relative to catch value (€)	0.268	0.258	0.271	0.170	0.133	0.124	0.128	0.130	0.113	-13%	↓	-58%
Energy consumption relative to catch value (€)	0.338	0.350	0.418	0.283	0.262	0.232	0.224	0.245	0.256	5%	↑	-24%
Sales revenue from catches	191 959 881	185 784 035	147 393 465	208 982 455	228 264 984	247 796 515	232 944 761	216 166 347	191 360 125	-11%	↓	0%

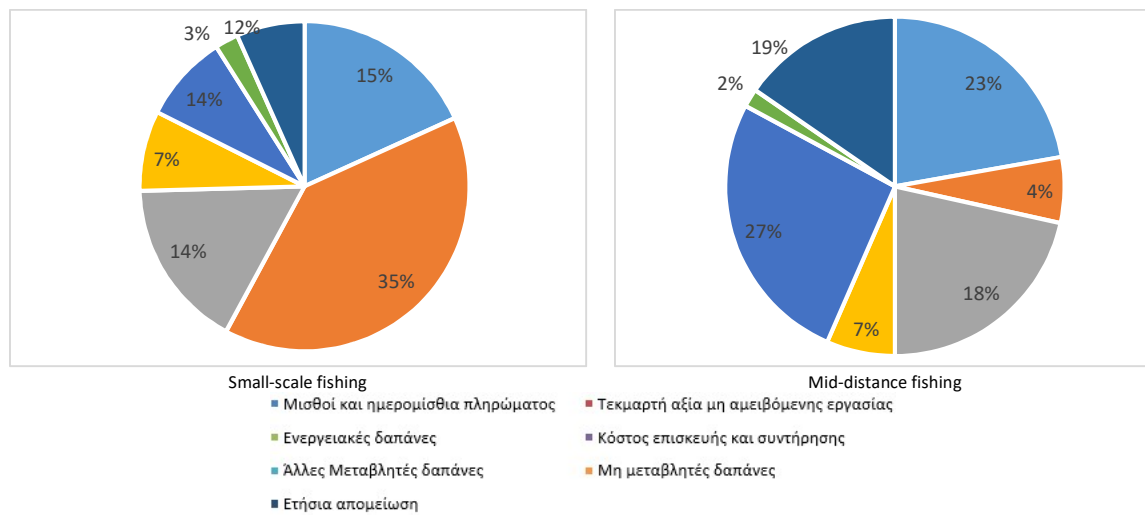


Figure A.1.a.4. Share in total expenditure of each expenditure item in (a) small-scale fishing and (b) mid-distance fishing

The financial results and economic indicators deteriorated significantly in coastal fishing.

In mid-distance fishing there was a considerable improvement, in the range of 4%-20%.

Table A.1.a.7. Expenditure and financial results in small-scale fishing, 2012-2020

Variable		2012	2013	2014	2015	2016	2017	2018	2019	2020	% change 2020-19	% change 2020-12
Revenue	Sales revenue from catches	235 877 167	232 288 624	202 868 115	222 546 553	236 329 149	220 743 073	216 126 619	218 782 079	156 487 909	-28% ↓	-34%
	Direct subsidies	–	3 611 349	4 476 639	2 402 045	2 490 956	1 897 882	1 255 180	1 174 890	17 107 890	– ↑	N/A
Expenditure	Crew wages and salaries	24 613 785	61 542 925	29 542 208	39 096 183	39 564 077	40 861 452	37 781 404	27 411 954	30 174 907	10% ↑	23%
	Imputed value of unpaid labour	88 688 818	74 366 188	69 244 763	75 875 157	89 255 089	88 871 423	86 789 957	84 201 999	71 476 482	-15% ↓	-19%
	Energy costs	57 557 178	60 246 282	52 567 939	49 009 374	45 345 077	37 325 894	38 519 066	36 626 634	29 109 316	-21% ↓	-49%
	Repair and maintenance costs	26 488 344	30 462 503	22 393 893	23 808 484	18 657 345	17 610 492	15 919 736	16 519 978	14 309 141	-13% ↓	-46%
	Other variable costs	34 739 510	32 643 116	30 393 627	31 660 887	24 756 687	19 285 510	22 561 965	25 561 831	27 873 841	9% ↑	-20%
	Non-variable costs	3 854 803	4 163 533	4 182 432	3 923 889	3 461 654	5 114 891	5 775 071	6 398 065	7 017 563	10% ↑	82%
	Annual depreciation	31 792 823	34 181 973	13 109 737	13 670 111	13 247 910	15 014 048	14 831 063	18 480 414	23 891 101	29% ↑	-25%
Financial results	Gross value added	113 237 333	108 384 539	97 806 863	116 545 964	146 599 342	141 406 287	134 605 961	134 850 462	95 285 938	-29% ↓	-16%
	Gross profit	-65 270	-27 524 574	-980 108	1 574 625	17 780 176	11 673 411	10 034 600	23 236 509	-6 365 451	– ↓	–
	Net profit	-31 858 093	-61 706 547	-14 089 845	-12 095 487	4 532 266	-3 340 637	-4 796 463	4 756 095	-30 256 552	– ↓	-5%
	Profit and remuneration for imputed value of labour	56 830 725	12 659 641	55 154 918	63 779 670	93 787 355	85 530 786	81 993 494	88 958 094	41 219 930	-54% ↓	-27%
Capital value	Depreciated replacement value of physical capital (€)	137 536 291	143 896 490	58 234 707	57 740 682	56 085 651	63 007 525	61 052 383	68 017 130	91 907 145	35% ↑	-33%
	Value of investments (€)	25 069 059	19 024 071	20 829 880	21 254 460	16 126 887	20 089 833	19 215 657	22 792 199	25 044 148	10% ↑	0%
	Financial position (%)	0.25	0.08	0.44	0.34	0.91	–	–	–	–	–	–
Economic indicators	Net profit margin (%)	-13.51	-26.16	-6.80	-5.38	1.90	-1.50	-2.21	2.16	-17.43	– ↓	29%
	RoFTA (%)	-23.16	-42.88	-24.19	-20.95	8.08	-5.30	-7.86	6.99	-32.92	– ↓	42%
	Gross value added / FTE	5 741	6 060	6 197	6 303	8 236	8 722	8 878	10 451	8 152	-22% ↓	42%
	Gross profit margin (%)	-0.03	-11.67	-0.47	0.70	7.45	5.24	4.62	10.56	-3.67	– ↓	–
	Gross value added / revenue	0.48	0.46	0.47	0.52	0.61	0.64	0.62	0.61	0.55	-10% ↓	14%
	Net profit margin and remuneration for imputed value of labour (%)	24.09	5.37	26.60	28.35	39.27	38.42	37.72	40.44	23.74	-41% ↓	-1%

Table A.1.a.8. Expenditure and financial results in large-scale fishing, 2012-2020

Variable	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change 2020-19	% change 2020-12	
Revenue	Sales revenue from catches	191 959 881	185 784 035	147 393 465	208 982 455	228 264 984	247 796 515	232 944 761	216 166 347	191 360 125	-11% ↓	0%
	Direct subsidies	–	135 846	599 190	233 892	277 571	963 846	38 230	107 301	17 611 884	– ↑	–
Expenditure	Crew wages and salaries	48 753 899	43 877 504	37 735 856	38 258 777	51 717 144	31 773 768	31 424 553	31 330 465	28 298 494	-10% ↓	-42%
	Imputed value of unpaid labour	2 400 668	5 691 831	5 818 228	6 175 076	5 905 020	8 975 549	8 704 295	5 987 039	5 101 414	-15% ↓	112%
	Energy costs	51 499 144	47 942 322	39 878 772	35 423 069	30 443 938	30 785 345	31 691 234	28 185 478	21 693 670	-23% ↓	-58%
	Repair and maintenance costs	13 656 087	12 705 684	11 914 787	11 828 015	14 338 600	9 330 073	9 192 400	9 039 855	8 114 153	-10% ↓	-41%
	Other variable costs	49 178 303	44 960 954	43 640 001	46 588 287	53 145 269	37 683 708	41 099 909	37 815 938	32 060 419	-15% ↓	-35%
	Non-variable costs	3 894 783	2 584 461	2 956 955	2 558 345	3 015 249	2 500 541	2 256 231	2 266 136	2 192 173	-3% ↓	-44%
	Annual depreciation	21 721 379	24 493 111	13 734 592	10 536 324	23 035 361	22 025 010	21 308 330	23 550 378	22 491 728	-4% ↓	4%
Financial results	Gross value added	73 731 564	77 726 460	49 602 141	112 818 630	127 599 500	167 496 849	48 743 218	138 966 241	144 911 595	4% ↑	97%
	Gross profit	22 576 998	28 157 125	6 048 057	68 384 777	69 977 335	126 747 531	108 614 369	101 648 738	111 511 687	10% ↑	–
	Net profit	855 619	3 664 015	-7 686 535	57 848 453	46 941 975	104 722 521	87 306 039	78 098 360	89 019 959	14% ↑	–
	Profit and remuneration for imputed value of labour	3 256 287	9 355 846	-1 868 306	64 023 529	52 846 994	113 698 070	96 010 334	84 085 399	94 121 373	12% ↑	–
Capital value	Depreciated replacement value of physical capital (€)	88 535 601	98 722 562	55 733 531	42 046 797	95 537 276	96 252 094	92 680 368	92 047 400	87 702 377	-5% ↓	-1%
	Value of investments (€)	5 138 108	5 087 352	5 310 453	6 512 975	9 591 746	7 440 557	7 792 596	8 831 347	0	– –	-100%
	Financial position (%)	11.60	3.93	1.91	0.54	6.05	–	–	–	–	– –	–
Economic indicators	Net profit margin (%)	0.45	1.97	-5.19	27.65	20.54	42.10	37.47	36.11	42.60	18% ↑	–
	RoFTA (%)	0.97	3.71	-13.79	137.58	49.13	108.80	94.20	84.85	101.50	20% ↑	–
	Gross value added / FTE	17 468	16 677	9 924	22 831	24 346	38 692	46 757	43 346	51 026	18% ↑	–
	Gross profit margin (%)	11.76	15.14	4.09	32.69	30.62	50.95	46.62	47.00	53.36	14% ↑	–
	Gross value added / revenue	0.38	0.42	0.34	0.54	0.56	0.67	0.64	0.64	0.69	8% ↑	81%
	Net profit margin and remuneration for imputed value of labour (%)	1.70	5.03	-1.26	30.60	23.12	45.71	41.21	38.88	45.04	16% ↑	–

A.1.a.5. Fleet composition

In Table A.1.a.9 the Greek fleet is broken down into 16 segments/strata according to main fishing gear and vessel length.

Table A.1.a.9. Breakdown of the Greek fleet based on main fishing gear and vessel length

Fleet segment	Main fishing gear	Length (metres)	Inactivity rate (%)
DTS 6-12 m	Winch trawl	6-12	36.22%
DTS 12-18 m	Winch trawl	12-18	12.82%
DTS 18-24 m	Bottom trawl	18-24	15.84%
DTS 24-40 m	Bottom trawl	24-40	2.78%
DFN 0-6 m	Nets	0-6	24.99%
DFN 6-12 m	Nets	6-12	13.89%
DFN 12-18 m	Nets	12-18	16.17%
FPO 0-6 m	Pots and traps	0-6	19.67%
FPO 6-12 m	Pots and traps	6-12	13.69%
HOK 0-6 m	Longlines	0-6	24.95%
HOK 6-12 m	Longlines	6-12	13.29%
HOK 12-18 m	Longlines	12-18	22.55%
DRB 6-12 m	Dredges	6-12	78.72%
PS 12-18 m	Purse seines	12-18	23.46%
PS 18-24 m	Purse seines	18-24	23.08%
PS 24-40 m	Purse seines	24-40	3.57%

The table also shows the percentage of inactive vessels per segment/stratum¹⁰. Table A.1.a.10 shows the vessels' average length, gross tonnage and total engine power and the average age of active vessels in each fleet segment.

Table A.1.a.10. Main characteristics of the fishing fleet by segment, 2020

Fleet segment	Number of active vessels	GT	kW	Average age	Average length
DFNVL0006	2 669	1 699.00	22 733.00	35.58	4.91
DFNVL0612	4 918	13 371.00	114 931.00	29.97	7.79
DFNVL1218	143	2 171.00	12 303.00	25.99	13.55
DRBVL0612	10	17.00	188.00	30.03	7.89
DTSVL0612	121	589.00	5 904.00	54.57	9.46
DTSVL1218	28	536.00	3 859.00	52.44	13.39
DTSVL1824	81	4 303.00	22 705.00	38.65	21.49
DTSVL2440	136	18 647.00	44 688.00	25.99	28.11
FPOVL0006	56	29.00	570.00	32.54	4.87
FPOVL0612	267	567.00	6 506.00	29.41	7.72
HOKVL0006	1119	736.00	10 138.00	37.40	4.91
HOKVL0612	1 688	4 693.00	40 663.00	31.80	7.70
HOKVL1218	90	1 399.00	7 540.00	26.93	14.38
PSVL1218	64	1 359.00	8 343.00	43.39	15.86
PSVL1824	123	4 782.00	20 584.00	30.35	21.01
PSVL2440	24	2 405.00	6 497.00	20.32	26.33
INACTIVEVL0006	1274	829.19	11 202.52	36.06	4.91
INACTIVEVL0612	1168	3 376.60	29 954.47	31.71	7.86
INACTIVEVL1218	52	1 343.51	7 812.14	32.35	14.35
INACTIVEVL1824	34	2 245.38	10 450.63	27.79	21.18
INACTIVEVL2440	10	622.84	1 519.01	24.85	27.76

To establish the basic economic variables for each segment of the fishing fleet, the relevant variables were first calculated on the basis of a sample of vessels in each segment. To extrapolate the variables to the population, account was taken of the overall population of vessels in each segment as well as the rate of inactivity. The findings of this analysis are presented in Table A.1.a.11. Figure A.1.a.4 shows, for each segment of the fleet, the overall expenditure share of each cost category.

¹⁰ Under Commission Decision 2010/93/EU, a vessel is considered 'inactive' if it has not engaged in fishing during the reference year (2019).

Table A.1.a.11. Basic economic variables per segment of the Greek fleet, 2020

	DFN0006	DFN0612	DFN1218	DRB0612	DTS0612	DTS1218	DTS1824	DTS2440	FPO0006	FPO0612	HOK0006	HOK0612	HOK1218	PS1218	PS1824	PS2440
Employment																
Engaged crew	2 933	7 307	358	18	371	99	455	908	56	379	1 155	2 510	295	487	1 032	330
Full-time equivalents	1 622	6 423	358	9	121	99	455	908	42	247	800	2 424	295	173	342	212
Average salary per worker	5 451	7 716	6 970	2 530	2 653	5 296	9 841	9 363	7 513	8 638	6 760	6 674	8 356	7 343	7 921	9 652
Average wages per FTE	9 854.28	8 777.27	6 974.03	5 025.39	8 147.96	5 296.04	9 850.59	9 367.64	10 020.48	13 265.55	9 761.28	6 911.17	8 353.65	20 725.67	23 929.97	15 040.83
Fishing effort																
Fuel consumption (litres)	2 919 288	18 339 203	1 342 652	22 600	265 493	253 565	10 676 739	24 765 517	102 410	856 486	1 694 761	5 806 063	1 754 898	1 840 875	5 384 978	2 901 650
Days at sea	269 273	870 987	16 708	800	4 362	1 005	14 992	28 660	10 126	43 279	93 060	231 555	4 914	11 142	19 785	5 913
Revenue	19 950 788	94 772 162	7 076 707	155 497	2 090 677	1 020 826	26 917 575	74 485 831	811 338	9 195 381	10 020 268	36 599 689	8 757 983	12 937 859	51 014 757	26 760 472
Sales revenue from catches	17 629 616	85 783 702	5 729 916	119 006	1 682 734	662 393	24 954 573	67 915 431	773 771	8 709 387	8 958 312	32 831 379	7 386 062	11 809 877	47 089 155	25 812 719
Direct subsidies	2 321 172	8 988 460	1 346 791	36 491	407 943	358 433	1 963 003	6 570 400	37 567	485 993	1 061 955	3 768 310	1 371 921	1 127 982	3 925 602	947 753
Expenditure (€)	27 652 003	108 537 258	6 514 316	136 070	2 739 932	1 206 486	17 743 546	37 529 246	808 501	5 688 730	14 322 419	39 874 344	8 194 136	9 386 516	24 737 193	11 741 864
Crew wages and salaries	3 400 513	18 749 197	1 353 997	19 144	716 636	251 104	3 786 183	7 654 407	58 800	1 213 944	1 279 368	4 737 305	1 826 715	3 060 444	7 273 251	3 092 393
Imputed value of unpaid labour	12 587 507	37 629 286	1 141 156	26 400	267 557	273 204	691 553	847 531	361 900	2 059 979	6 528 976	12 014 878	638 348	515 656	901 128	92 838
Energy costs	3 397 616	17 330 400	704 620	19 828	190 023	197 119	4 376 775	10 622 138	144 417	740 498	1 915 075	5 371 458	1 042 119	979 578	2 499 679	1 271 642
Repair and maintenance costs	1 968 065	8 210 829	512 517	11 900	148 649	48 526	1 321 098	2 980 149	86 800	425 774	840 113	2 617 011	540 653	554 224	1 537 544	619 442
Other variable costs	3 083 575	12 923 272	1 157 471	27 385	537 895	206 884	4 169 233	7 644 053	93 625	328 259	2 226 366	8 653 464	2 316 668	3 096 951	8 899 756	4 569 402
Non-variable costs	1 172 415	3 422 575	161 949	8 876	74 643	41 283	402 272	694 704	23 240	163 662	556 264	1 595 887	227 845	200 035	365 577	98 508
Annual depreciation	2 042 312	10 271 699	1 482 607	22 537	804 529	188 366	2 996 433	7 086 263	39 719	756 613	976 258	4 884 340	1 601 787	979 628	3 260 259	1 997 637
Invested capital																
Depreciated replacement value (€)	7 750 660	40 277 918	6 001 213	89 239	2 770 800	669 165	11 182 490	28 148 982	153 411	2 933 011	3 578 618	18 754 270	6 326 371	3 587 777	12 344 370	8 324 085
Total investments (€)	3 618 410	15 003 143	619 500	10 667	385 152	176 001	1 637 667	2 544 500	51 940	482 245	1 231 016	4 261 576	632 127	841 216	1 550 854	554 482
Financial position (€)	13 905 314.0	106 819 217.5	10 093 761.7	150 000.00	12 448 665.2	2 798 378.13	23 289	60 108 522.9	992 250.00	6 684 555.26	5 824 500.00	37 086 107.7	11 152 875.2	7 831 327.80	30 724 831.1	18 483 686.1
	0	7	2	8	8	264.73	9				2	7		5	8	
Economic Indicators (€)																
Gross value added*	10 329 118	52 885 086	4 540 150	87 508	1 139 466	527 014	16 648 198	52 544 786	463 256	7 537 187	4 482 450	18 361 868	4 630 697	8 107 070	37 712 202	20 201 477
Gross profit	-5 658 902	-3 493 396	2 044 998	41 963	155 273	2 706	12 170 462	44 042 848	42 556	4 263 264	-3 325 894	1 609 685	2 165 634	4 530 970	29 537 823	17 016 245
Net profit	-7 701 215	-13 765 096	562 391	19 426	-649 255	-185 660	9 174 029	36 956 585	2 837	3 506 651	-4 302 152	-3 274 655	563 847	3 551 342	26 277 564	15 018 608
Profit and remuneration for imputed value of labour	4 886 292	23 864 190	1 703 547	45 826	-381 699	87 544	9 865 582	37 804 116	364 737	5 566 630	2 226 824	8 740 222	1 202 195	4 066 999	27 178 692	15 111 446
Profitability indicators (€)																
GVA/income	0.52	0.56	0.64	0.56	0.55	0.52	0.62	0.71	0.57	0.82	0.45	0.50	0.53	0.63	0.74	0.75
Labour productivity**	6 366	8 233	12 690	9 656	9 433	5 323	36 624	57 895	11 034	30 540	5 604	7 575	15 693	46 985	110 400	95 392
RoFTA (%)***	-0.97	-0.33	0.12	0.24	-0.21	-0.24	0.84	1.34	0.05	1.22	-1.18	-0.14	0.12	1.02	2.16	1.82
Net profit margin****	-38.60	-14.52	7.95	12.49	-31.05	-18.19	34.08	49.62	0.35	38.13	-42.93	-8.95	6.44	27.45	51.51	56.12

*Gross value added: Revenue – (energy costs + repair and maintenance costs + other variable costs + non-variable costs)

**Labour productivity: Gross value added / FTE

***RoFTA (%) (return on assets): (revenue – expenditure) / depreciated replacement value

****Net profit margin: Profit/revenue (%)

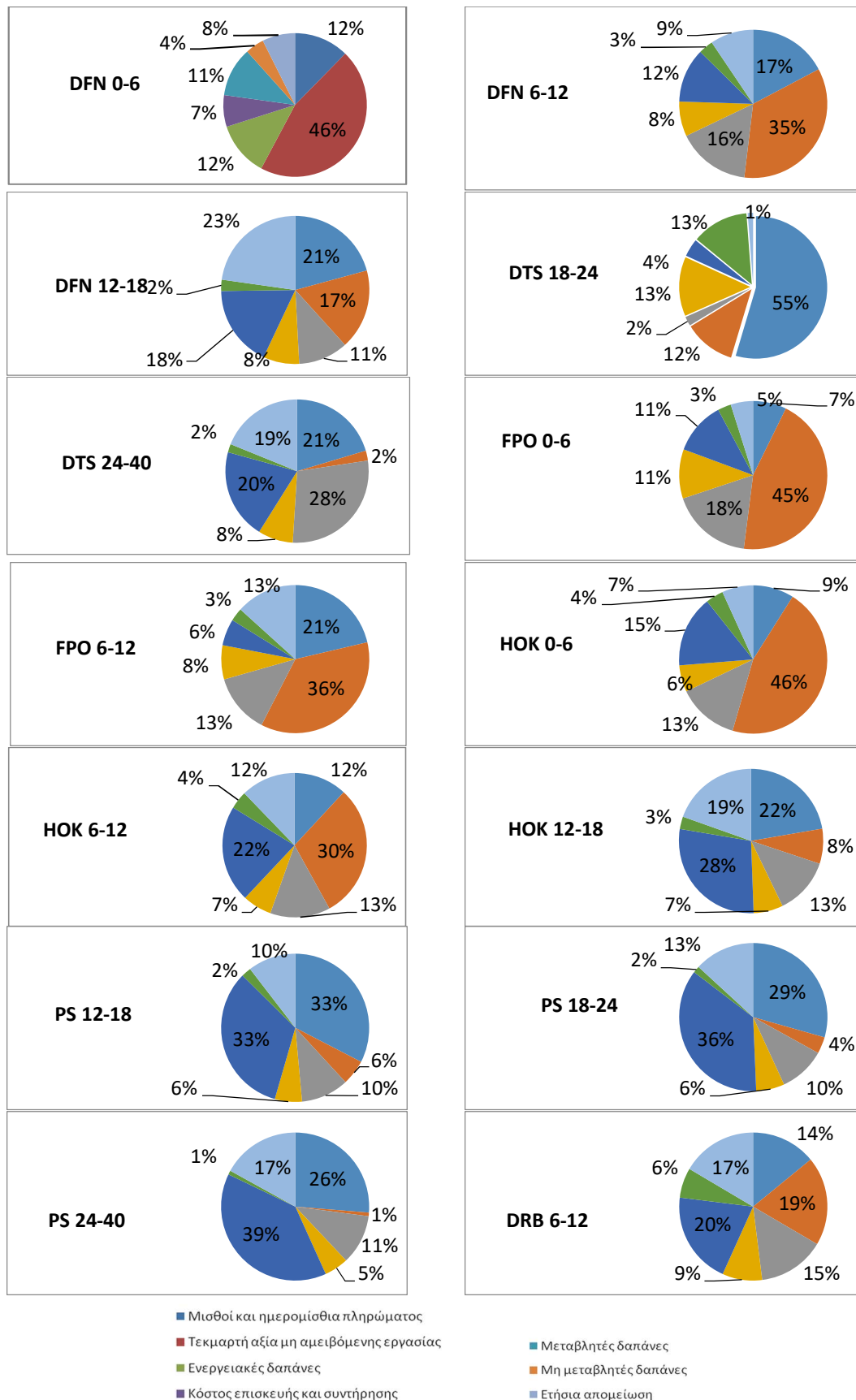


Figure A.1.a.5. Breakdown of expenses for each segment of the Greek fleet

A.1.a.5. Fishers' needs (training)

In the context of collecting socio-economic data on the sea fishing sector, fishers were asked whether they intended to participate in sector-related training.

Tables A.1.a.12 and A.1.a.13 below detail the replies of respondents in coastal and mid-distance fishing, respectively, broken down by subject.

Table A.1.a.12. Interest in attending training; coastal fishing

N/A	Seminar	Proportion of positive replies among all respondents
1	Sustainable fishing / sustainable management of fish stocks	88%
2	Use of new technologies	85%
3	New technologies / new fishing techniques	84%
4	Self-management of marine areas – issues and opportunities	78%
5	Marine protected areas	77%
6	Input reduction techniques	77%
7	Common fisheries policy	76%
8	Economic management / business planning for fishing businesses	76%

Around 9% of coastal fishers in the survey had attended sector-related training in the past.

Also, 45% expressed interest in attending future training. A more detailed analysis of the survey shows which seminars respondents would most like to attend, by subject: sustainable fishing / sustainable stock management 89%; use of new technologies 85%; new technologies / new fishing techniques 84%; self-management of marine areas – issues and opportunities 78%; marine protected areas 77%; input reduction techniques 77%; common fisheries policy 76%; and economic management / business planning for fishing businesses 76%.

Table A.1.a.13. Interest in attending training; mid-distance fishing

N/A	Seminar	Proportion of positive replies among all respondents
1	Sustainable fishing / sustainable management of fish stocks	89%
2	Use of new technologies	84%
3	Economic management / business planning for fishing businesses	82%
4	New technologies / new fishing techniques	82%
5	Common fisheries policy	81%
6	Self-management of marine areas – issues and opportunities	78%
7	Marine protected areas	78%
8	Input reduction techniques	76%

Among mid-distance fishers participating in the survey, 17% had attended sector-related training in the past.

Also, 52% expressed interest in attending future training. In more detail, the respondents would most like to attend the following seminars, by subject: sustainable fishing / sustainable stock management 89%; use of new technologies 84%; economic management / business planning for fishing businesses 82%; new technologies / new fishing techniques 82%; common fisheries policy 81%; self-management of marine areas – issues and opportunities 78%; marine protected areas 78%; and input reduction techniques 76%.

In order of preference, fishers in both groups put the same seminars in first and second place.

Mid-distance fishers show considerably more interest in the seminar on economic management / business planning for fishing businesses, which they put in third place, as compared to eighth place in order of preference for coastal fishers. This indicates a link between mid-distance fishing and a more business-oriented approach to exercising fishing activity.

A.1.a.5. Conclusions of the survey and problems encountered

This report sets out the basic economic variables for the Greek sea fishing sector with respect to the 2020 reference year. The variables were collected under the 2020 national fisheries data collection programme. The economic variables were collected from a sample of fishing vessels using a structured questionnaire.

As provided for by the national programme, the sample was selected by stratified random sampling, with the 2020 national fishing vessel register as a sampling basis, and stratification of the population was based on vessel length and main fishing gear. The Greek fishing fleet was divided into 16 segments, eight of which comprise vessels engaged in small-scale fishing, i.e. all vessels less than 12 metres in length.

The above analysis shows a downward trend in the number of vessels and the total number of workers in the period from 2012 to 2020. Revenue from the sale of catches fell compared to 2019 in both medium-distance and coastal fishing.

This turn for the worse is clearly due to the consequences of the pandemic, which affected the entire supply chain. In terms of individual fleet segments it is worth noting that 10 of the 16 segments, as well as the fleet as a whole, achieved net profits, even against the background of the considerable adverse economic effects of the pandemic.

This could be interpreted to mean that the least profitable vessels have left the sea fishing fleet, or that the vessels in operation have become more efficient, mainly by reducing their use of inputs.

It is worth noting that most financial results and economic indicators have improved compared to 2019 in coastal fishing, pointing to efficiency gains, whereas there was a decline in efficiency in the case of mid-distance fishing. However, there is a clear longer-term trend of improvement in both mid-distance and coastal fishing that smooths out these differences.

Furthermore, the sum of profits and remuneration for imputed labour is positive in nearly all coastal fishing segments and quite high overall.

This indicator is more suitable for assessing the standard of living in particular of coastal fishers, as it also takes into account work put in by family members who thus contribute to the household income.

The indicator values show that fishers earn a positive income from their activity.

CHAPTER III BIOLOGICAL SUSTAINABILITY INDICATORS

Calculation of the 'sustainable harvest' indicator

The 'sustainable harvest' indicator (see Chapter 10 of the Regulation) has been calculated for a number of demersal and small pelagic stocks in geographical sub-areas (GSAs) 20 (Ionian Sea) and 22 (Aegean Sea).

The final weighted F/F_{msy} harvest indicators for trawlers, coastal vessels and purse seiners are 1.15, 0.97 and 2.32, respectively.

F/F_{msy} values are shown below for the stocks taken into account, along with the weighting given to each stock based on its catch value expressed in euro (€ thousand).

In each case, account was taken of the main species, i.e. those making up the majority of the catch and with the highest economic value. Two species were taken into account for purse seiners, five for trawlers and eight for coastal vessels.

Purse seines (PS)

GSAs	Species	F/F_{msy}	Catch value
22	Anchovy (ANE)	2.97	27 910
22	Sardine (PIL)	1.74	25 753
20	Anchovy (ANE)	0.14	623
20	Sardine (PIL)	1.07	1 681

Bottom otter trawls (OTB)

GSAs	Species	F/F_{msy}	Catch value
22	Hake (HKE)	1.67	17 354
22	Red mullet (MUT)	0.96	10 600
22	Striped mullet (MUR)	0.45	3 202
22	Pink shrimp (DPS)	0.65	10 784
22	Spicara smaris (SPC)	0.51	678
20	Hake (HKE)	1.86	2 146
20	Red mullet (MUT)	1.1	749
20	Striped mullet (MUR)	0.42	56
20	Pink shrimp (DPS)	0.39	153
20	Spicara smaris (SPC)	0.32	37

Coastal vessels

GSAs	Species	F/F_{msy}	Catch value
22	Hake (HKE)	1.67	11 992
22	Red mullet (MUT)	0.96	7 415
22	Striped mullet (MUR)	0.45	10 763
22	Bogue (BOG)	0.19	3 043
22	Octopus (OCC)	0.65	10 530
22	Common pandora (PAC)	0.61	6 874
22	Common cuttlefish (CTC)	1.72	5 867
22	Spicara smaris (SPC)	0.51	1 503
20	Hake (HKE)	1.86	3 133
20	Red mullet (MUT)	1.1	2642
20	Striped mullet (MUR)	0.42	2 449
20	Bogue (BOG)	0.24	679
20	Octopus (OCC)	0.76	1 394
20	Common pandora (PAC)	0.43	922
20	Common cuttlefish (CTC)	1.4	2 556
20	Spicara smaris (SPC)	0.32	187

For a small number of stocks, namely anchovy (ANE), sardine (PIL), hake (HKE), red mullet (MUT) and shrimp (DPS), the sustainable harvest indicator (F/F_{msy}) is calculated on the basis of population estimates provided by GFCM and EU (STECF) working groups. For the remaining stocks the estimates were made specifically for the purposes of this report.

In the vast majority of cases, as a result of the DCF not having been implemented for a number of years, the estimates involve a large degree of uncertainty due to time gaps in the data series, which required a number of assumptions to be made in the methods used.

These uncertainties should be taken into account and examined on a case-by-case basis, in particular if the estimates are used for management purposes.

Similar comments have also been made by the STECF and GFCM expert working groups, which have been able to make validated quantitative assessments of the condition of the stocks only in a few cases.

Overall conclusions

The SAR and SHI indicators can be calculated only partially as several fleet segments do not exceed the 40% threshold for F/F_{msy} estimates, and as no estimates are available for GSA23 it is not possible to present an overall picture for Greece.

To give a correct estimate, a detailed qualitative and quantitative review and analysis of the existing data would have to be carried out, which could not feasibly be done by the deadline for submitting the report.

Please refer to our 'General comments on the methodology used in the report' (page 52) as regards our views on the usefulness of the indicators and to what extent they correctly and objectively reflect the situation of the Greek fleet.

For the above reasons we do not consider it appropriate to include an analysis in this respect in the current report. Such an analysis will be made and submitted in future, and we will endeavour to retroactively include some of the indicators for the 2020 reference year.

Under Article 22(4) of Regulation (EU) No 1380/2013, if a Member State's assessment of its fishing fleet clearly shows that fishing capacity is not effectively balanced with fishing opportunities, it must prepare and include in its report an action plan for fleet segments with identified structural overcapacity.

An action plan based on the above assessment is currently being drawn up to complete this report.

The action plan will set out the adjustment targets and tools to achieve a balance and a clear timetable for its implementation in line with the above requirement.